



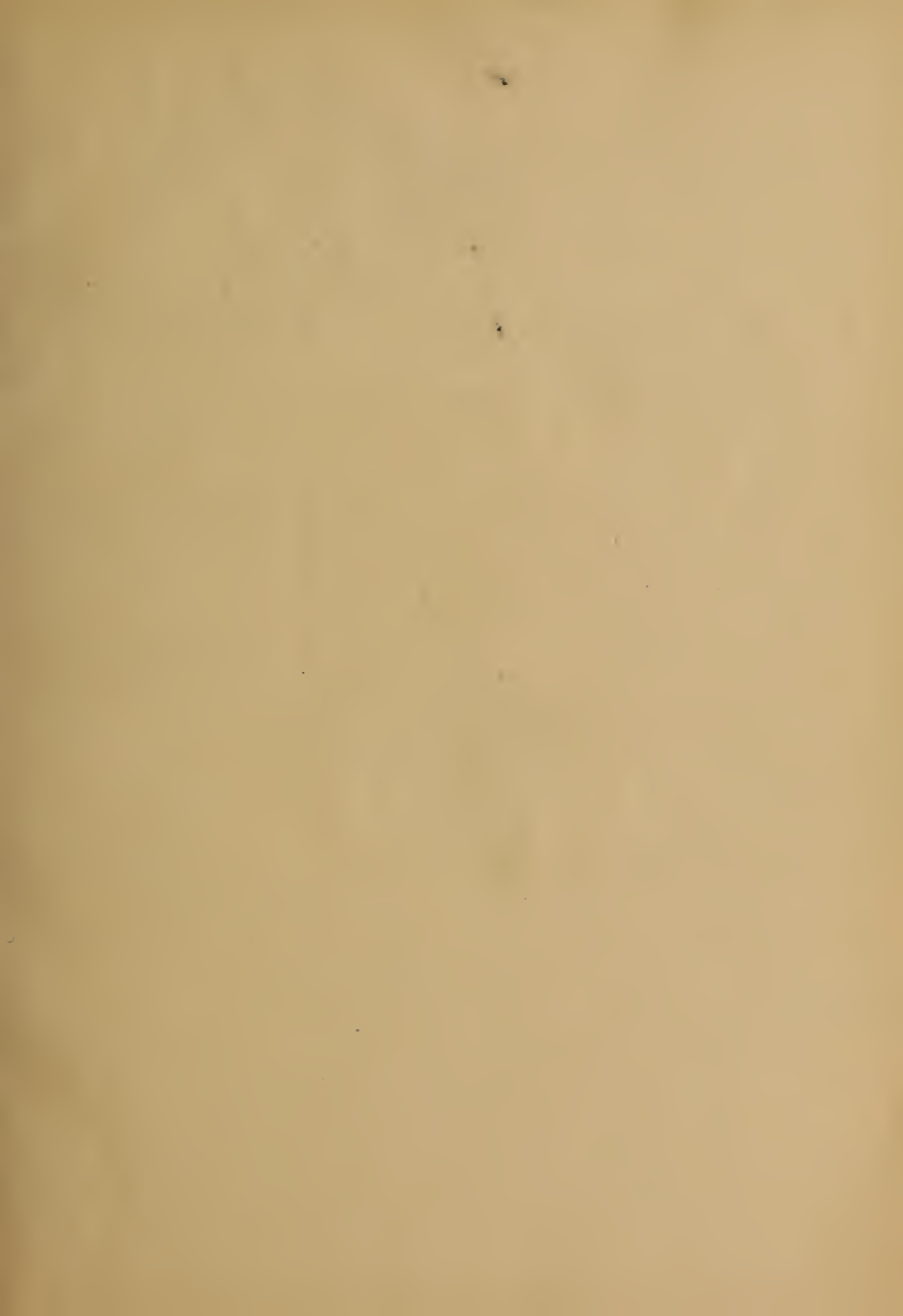
Ver.

The New York  
Academy of Medicine



*By Exchange*











# ILLINOIS MEDICAL JOURNAL

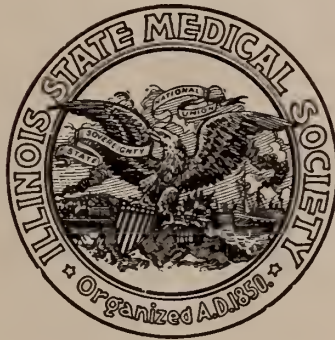
THE OFFICIAL ORGAN OF

The Illinois State Medical Society

PUBLISHED AT OAK PARK, ILL.

CHARLES J. WHALEN, M.D., Editor

HENRY G. OHLS, M.D., Managing Editor



INDEX TO VOLUME LXV

---

JANUARY TO JUNE, 1924

NEWYORK ACADEMY  
OF MEDICINE

AUG 31 1934

LIBRARY

192676

# INDEX TO VOLUME LXV

JANUARY TO JUNE, 1934

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including

the titles of papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

## A

- Abscess, Treatment of Pulmonary.  
Carl A. Hedblom, Chicago..... 238  
Actinomycosis of the Parotid Gland.  
John T. Hart and Cleveland White,  
Chicago ..... 355  
Adenocarcinoma of Kidney in Child-  
hood. H. T. Mostrom and J. C.  
West, Batavia ..... 21  
Aldrich, C. Anderson. Paper..... 51  
Allergy, Diagnosis of Abdominal.  
Charles J. Drucek, Chicago..... 467  
Allergy, Observations on. John Pe-  
ters, Maywood, and Maurice J.  
Hoffman, Chicago ..... 221  
A. M. A. Service to Medicine. Charles  
B. Reed, Chicago..... 425  
A. M. A. Directory Card. (E)..... 9  
Ameliasis, Diagnosis and Treatment.  
James A. Conner, Chicago..... 493  
Anderson, C. H. Paper..... 357  
Anesthesia, Peridural in Abdominal  
Surgery. John R. Harger, Chicago 317  
Annual Meeting Committee. (E).... 193  
Annual Meeting, 84th. (E)..... 190, 289, 388  
Annual Meeting, 1934. (E)..... 478  
Appelle, C. George. Discussion.... 165  
Appendicitis, Acute, Diagnosis and  
Treatment. E. S. Murphy, Dixon. 325  
Arnold, Lloyd. Discussion..... 36  
Auricular Fibrillation. C. C. Maher,  
Chicago ..... 140  
Attorney-General vs. Corporations  
Practicing Medicine. (E)..... 481

## B

- Bacon, Francis L. Paper..... 213  
Bauer, W. W. Discussion..... 276  
Beard, Hallard. Discussion..... 263, 272  
Benign Bone Cyst in Newborn. Vito  
Witting and James G. Gillespie,  
Urhana ..... 451  
Bigler, John A. Paper..... 235  
Binney, R. W. Paper..... 345  
Birth Rate, Decline and Fall. (E).. 95  
Birth Rate Below Par. (E)..... 480  
Bismuth in Treatment of Syphilis.  
S. J. Zakon, Chicago..... 458  
Boswell, Clarence H. Paper..... 254  
Bothman, Louis. Discussion..... 263  
Bothman, Louis. Paper..... 226  
Brain, Injuries to. W. T. Coughlin,  
St. Louis, Mo..... 538  
Brennan, M. Earl. Paper..... 29  
Bureaucracy, A Breakfast Causerie.  
(E) ..... 185

## C

- Caldwell's Daily Log for Physicians.  
(E) ..... 101

- Can Individualism Survive? (E).... 192  
Carcinoma of the Jejunum. Ralph A.  
Kordenat, Chicago ..... 218  
Carey, J. F. Discussion..... 24  
Carr, James G. Discussion..... 147  
Carr, James G. Paper..... 134  
Cataract, Senile. Intracapsular Oper-  
ation. W. A. Fisher, Chicago.... 437  
Cataract, Traumatic. Its Medico-  
Legal Aspect. Joseph Shanks, Chi-  
cago ..... 338  
Catheter, New Type of Retention.  
J. Major Greene and Earl I.  
Greene, Chicago ..... 344  
Center, Passing of Dr. Charles Dewey.  
(E) ..... 332  
Chicago Medical Society Service to  
Medicine. Thomas P. Foley, Chi-  
cago ..... 430  
Cholecystography. Henry A. Olin,  
Chicago ..... 57  
Chorea, Treatment by Typhoid Vac-  
cine. Emil T. Haverson, Kankakee,  
Ill. .... 556  
Christenson, A. W. Discussion.... 209  
Coal Company Practicing Medicine.  
(E) ..... 196  
Codes of Moses and Hippocrates Good  
Today. (E) ..... 385  
Coleman, E. P. Discussion..... 210  
Collection Agencies, Ethics of. (E). 387  
Collins, C. U. Discussion..... 211  
Colon, Irritable. H. P. Miller, Rock  
Island ..... 340  
Common Cold, Factor in Susceptibil-  
ity. Arthur Ewens, Atlantic City,  
N. J. .... 352  
Conner, James A. Paper..... 498  
Contraceptive Law Before Congress.  
(E) ..... 101  
Copy, Some Observations on. (E)...  
..... 103, 194, 289, 387  
Cornell, Edward L. Paper..... 462  
Coronary Artery Disease. Don C.  
Sutton, Chicago ..... 138  
Coughlin, W. T. Paper..... 538

## CORRESPONDENCE:

- A Correction. Beulah Cushman... 421  
Ameliasis Examinations. Frank J.  
Jirka ..... 197  
Charge for Medical Services. Glen  
R. Ingram ..... 13  
Committee Re Illinois Emergency  
Relief Commission ..... 310  
Cretinism in U. S. A. Arnold  
Jackson ..... 198  
Dr. Nelson Corrects Error. T.  
Nelson ..... 105  
Emergency Medical Care Available  
Every Family Doctor a Public  
Health Officer ..... 12

- Frozen Credits of Medical and Le-  
gal Profession ..... 197  
Goiter Association Program..... 314  
Good Water ..... 105  
General Practitioner, the Sheet An-  
chor. Thomas E. Foley..... 13  
How to Kill a Medical Society.... 309  
Macon County vs. Insurance Pro-  
posal ..... 309  
Passing Diagnosis Up to Labora-  
tory. Charles B. Younger..... 12  
Radium Shipment Lost. Harold  
Swanberg ..... 104  
Samuel D. Gross Prize..... 423  
Sangamon Co. Invitation..... 421  
Socialization of Medicine..... 105  
Spirit for 1934. Mrs. William R.  
Cubbins ..... 14  
Veterans' Administration Report.. 113  
Veterans' Relief Regulation..... 115  
Your Income Tax Report..... 109  
Cotell, H. Paper..... 70  
Council Approves Medical Commis-  
sion. (E) ..... 287  
Crawford, W. L. Paper..... 49  
Cubbin, William R. Paper..... 203  
Cushman, Beulah. Discussion..... 232

## D

- David, David J. Paper..... 529  
Davis, N. S. III. Paper..... 131  
Deal, John. Paper..... 149

## DEATHS:

- Austin, Adelbert Morton, Quincy,  
Ill. .... 570  
Balcerzak, Anthony. Chicago.... 134  
Barker, Alex. B. Peoria..... 92  
Beckett, Stanley J. Chicago..... 570  
Biankini, Anton. Chicago..... 376  
Black, Jeremiah Edward. Chicago. 376  
Blue, William Stockton. Ottawa.. 184  
Bowes, William Joseph. Chicago.. 280  
Brewer, Daniel. Fairbury, Ill... 92  
Buchanan, William B. Chicago... 184  
Burwell, Enoch A. Nokomis, Ill.. 376  
Burke, Charles Oren. Atlanta, Ill.. 570  
Cameron, Solon William. Chicago. 376  
Carr, Martin C. Duquoin, Ill... 376  
Center, Charles D. Quincy, Ill... 382  
Christian, William Arnold. Chicago 476  
Christie, Edmund. Chicago..... 92  
Cole, James Joseph. Chicago..... 184  
Corhin, John Francis. Galesburg,  
Ill. .... 92  
Crocker, Fred Sargeant. Chicago. 92  
Crow, James A. Round Knob, Ill.. 376  
Culp, Theodore W. Ava, Ill..... 82  
Cutter, Cyrus Henry. Aurora, Ill. 476  
Delavergne, H. Eugene. Kankakee,  
Ill. .... 250

101-Exch.



- Diller, Adam Elmer. Aurora, Ill... 92  
 Earle, Albert Marion. Hoopeston, Ill. .... 376  
 Eddy, James Henry. Lakewood, Ill. .... 92  
 Elner, Sheftel Jacob. Chicago.... 92  
 Emerson, M. D. Galatia, Ill.... 476  
 Etherton, John Carrol. Chicago... 376  
 Ferguson, Robert A. Bellair, Ill.. 92  
 Gibson, Horace. Sheldon, Ill.... 92  
 Golden, John Ferdinand. Chicago. 92  
 Goodell, Frank Wise. Effingham, Ill. .... 92  
 Hall, Charles Berrien. Chicago.... 92  
 Hancock, Clinton J. Greenup.... 476  
 Hedges, Leroy Clarke. Chicago... 280  
 Higginbotham, Birdie E. McL. S., Chicago ..... 570  
 Hitchings, Robert C. Donovan, Ill. 570  
 Hoffman, George. Chester, Ill.... 184  
 Holinger, Jacques. Chicago..... 476  
 Holm, Anna Sophia Windrow. Chicago ..... 476  
 Hood, Calvin T. Chicago..... 92  
 Hoover, Walter Karl. Lovington, Ill. .... 376  
 Hutton, Col. Paul Churchill, M. C., U. S. Army, Chicago..... 476  
 Kaufman, Isaac. Chicago..... 280  
 Keaveney, Thomas Eugene. Keithsburg ..... 476  
 Kelly, James William, Chicago.... 570  
 Kimery, Carl W. Lerna, Ill.... 184  
 Kitchin, John Edward, Bone Gap, Ill. .... 570  
 Klopper, Zanvill David. Chicago.. 280  
 Le Roy, Elmore W. Chicago..... 92  
 Liddy, Thomas Frank. Chicago... 376  
 Malm, August Henry. Princeton.. 184  
 Marlow, James T. Tamaroa, Ill.. 280  
 Marzano, Joseph. Chicago..... 184  
 Mason, Ulysses Grant. Chicago... 92  
 McElroy, William Taylor. Beardstown ..... 376  
 Meyer, Robert C. J. Moline..... 476  
 Miller, Charles Henderson. Chicago 476  
 Mix, Walter Spaulding. Beardstown ..... 280  
 Monroe, Henry Everett. Shelbyville ..... 280  
 Morgenthau, George L. Chicago.. 476  
 Morony, James J. Breese..... 280  
 Moore, Edward Engleton. Wilmette 92  
 Naffz, Edwin S., Chicago..... 570  
 Nelson, Curtis. Barrington, Ill... 476  
 Nelson, David Roy. Moline, Ill.... 570  
 Newlin, LeRoy. Robinson, Ill.... 376  
 Nichols, John Delbert, Mooseheart, Ill. .... 184  
 Olmstead, Lynn Cecil. Chicago... 184  
 Oshay, Franklin J. Ladd, Ill.... 92  
 Oughton, Charles M. Evanston, Ill. 92  
 Parker, Charles A. Dongola..... 280  
 Pearce, Edward. Marshall, Ill.... 184  
 Ransom, Wilmont L. Rockford, Ill. 376  
 Robinson, Luther Franklin. Ullin, Ill. .... 476  
 Rosenberg, Maurice H. Chicago.. 376  
 Rosenblith, Henry. Chicago..... 476  
 Russell, Ben. Sheffield, Ill.... 476  
 Sargent, Edward Evan. LeRoy, Ill. 476  
 Schurtz, Frank Barton. Spring Valley ..... 376  
 Sheldon, Albert Rufus. Highland Park, Ill. .... 376  
 Small, George Herbert. Bloomington, Ill. .... 92  
 Snyder, Karl Forbes. Freeport, Ill. 92  
 Spring, Charles Elmer. Chicago.. 92  
 Steckbauer, Clifford Earle. Chicago 184  
 Sullivan, Clement O. Monee, Ill.. 92  
 Taylor, Edwin A., Chicago..... 570  
 Tharp, Royal. East St. Louis, Ill.. 184  
 Tubergen, Benjamin Franklin. Chicago ..... 376  
 Urban, John Ignatius. Chicago.... 184  
 Van Doren, Charles L. Urbana.. 92  
 Von Boenigk, William, Chicago... 570  
 Wakeford, Charles. Norris City, Ill. 280  
 Watson, Samuel Madison. Alton.. 280  
 Weber, Andrew Harrison. Chicago 476  
 Weirich, William Harrison. Jacksonville ..... 476  
 Wheeler, Virgil Martha Gilchrist. Urbana ..... 376  
 Winbiger, Edward Sutherland. Alexis, Ill. .... 476  
 Wittig, Vito. Urbana..... 476  
 White, Elmer Thomas. Chicago... 92  
 Wolff, John Marion. Jacksonville. 476  
 Woodward, Joseph Theodore. East Moline ..... 280  
 Yantis, David Earl. Urbana, Ill.. 184  
 Deep Neck Infection, Surgical Approach. Hanby L. Ford, Champaign 117  
 DeKruif Berates the Profession. (E) 96  
 DeTarnowsky, George. Paper..... 64  
 Diathermy in Prostatectomy. C. Otis Ritch, Chicago ..... 370  
 Doctor and Community. Philip H. Kreuscher. Chicago ..... 493  
 Dorland, W. A. Newman. Paper... 348  
 Drucek, Charles J. Paper..... 467  
 Dry, Frank M. Paper..... 506  
 Duntley, G. S. Discussion..... 42  
 Durkin, Harry A. Discussion..... 257
- E**
- Eclampsia, Cooperation in. Dwight J. Ladd, Chicago ..... 548
- EDITORIALS:**
- A. M. A. Directory Card..... 9  
 Annual Meeting, 84th....190, 289, 388  
 Annual Meeting Committee..... 193  
 Annual Meeting, 1934..... 478  
 Attorney-General vs. Corporations Practicing Medicine..... 481  
 Birth-rate, Decline and Fall..... 95  
 Birth Rate Below Par..... 480  
 Bureaucracy, A Breakfast Causerie 185  
 Caldwell's Daily Log for Physicians 101  
 Can Individualism Survive?..... 192  
 Center, Passing of Dr. Charles Dewey ..... 382  
 Coal Company Practicing Medicine 196  
 Codes of Moses and Hippocrates Good Today ..... 385  
 Collection Agencies, Ethics of.... 387  
 Contraceptive Law Before Congress 101  
 Copy, Some Observations on..... 103, 194, 289, 387  
 Council Approves Medical Commission ..... 287  
 DeKruif Berates the Profession... 96  
 Enforce the Medical Practice Act. 95  
 England's National Health Insurance ..... 9  
 Every Ethical Physician Should Belong ..... 75, 174  
 Federal Employes' Compensation Act ..... 186  
 Government Subsidies Socialism's Gift ..... 477
- Group Hospitalization ..... 5  
 Happy New Year..... 1  
 Hospitals in Compensation Cases.. 183  
 Illinois State Medical Society Activities ..... 383  
 Illinois State Medical Society Official Program ..... 391  
 Illinois State Medical Society, Annual Meeting Preliminary Program ..... 292  
 Lay Dictation ..... 4  
 Left-handed Person ..... 286  
 Maternal Mortality Report a Boomerang ..... 483  
 Medical Profession Indicted as a Herod ..... 377  
 Medical Profession May Receive Joker ..... 484  
 Medical Relief for Emergency Only 97  
 Medicine, Red or Red, White and Blue ..... 281  
 Michigan State Medical Society Re Socialized Medicine ..... 385  
 Milbank Memorial Fund Re Socialized Medicine ..... 187  
 Opportunity for Profession..... 96  
 Overtrained Doctors, Undertrained Physician ..... 2  
 Papers for Annual Meeting, 9, 102, 194  
 Physician the Goat in Every Human Crisis ..... 94  
 Practice of Medicine, Perils and Pitfalls ..... 485  
 Preventability and Horse Sense... 380  
 Reaching Out for the Profession... 482  
 Reprehensible Medical English... 290  
 Springfield ..... 389  
 Springfield Points of Interest.... 417  
 Tharp, Death of Dr..... 103  
 Veterans' Dinner at Annual Meeting ..... 145, 290  
 Work and Live for Profession.... 93
- Educational Committee Reports.....**  
 .....18, 112, 199, 312
- Endocrines in Ophthalmology. Louis Bothman, Chicago ..... 226  
 Enforce the Medical Practice Act. (E) ..... 95  
 England's National Health Insurance. (E) ..... 9  
 Ewentration. Frank M. Dry, Chicago 509  
 Every Ethical Physician Should Belong. (E) ..... 75, 174  
 Ewens, Arthur. Paper..... 352  
 Ewert, Earl E. Paper..... 440
- F**
- Federal Employes' Compensation Act. (E) ..... 186  
 Fecal Fistulae Involving Abdominal Wall. Aimé Paul Heineck, Chicago 559  
 Ferguson, R. R. Paper..... 128  
 Fetal Monster, Diagnosis of. M. L. Weinstein and H. Cotell, Chicago. 70  
 Fey, Amos. Paper..... 203  
 Field, Marshall. Paper..... 543  
 Finkelman, Isadore. Paper..... 457  
 Fisher, E. C. Discussion..... 216  
 Fisher, W. A. Paper..... 437  
 Foley, Thomas P. Paper..... 430  
 Folk, M. L. Paper.....158, 268  
 Ford, Hanby L. Paper..... 117  
 Fractures Re Internal Fixation with Cow's Horn. Edson B. Fowler, Evanston ..... 56



# VOLUME INDEX

v

Friedlander Bacillus Meningitis re  
Otitis Media. G. Howard Gowen,  
Chicago ..... 533  
Fowler, Edson B. Paper..... 56

## G

Gas Bacillus Infection. E. W. Tel-  
ford, Chicago ..... 564  
Gastritis, Total. M. H. Streicher,  
Chicago ..... 520  
Gatewood, Doctor. Discussion..... 221  
Gibson, Stanley. Paper..... 54  
Gillespie, James G. Paper..... 451  
Glatt, M. A. Paper..... 358  
Gonorrheal Infections Re Neo-Vonar-  
gen. Joseph E. L. Laibe, Chicago. 363  
Good, R. H. Paper..... 37  
Government Subsidies Socialistic Pres-  
ent. (E) ..... 477  
Gowen, G. Howard. Paper..... 533  
Greene, J. Major and Earl I. Paper 344  
Grimes, John M. Paper..... 154  
Group Hospitalization. (E)..... 5

## H

Happy New Year. (E)..... 1  
Harger, John R. Paper..... 317  
Hart, John T. Paper..... 355  
Hayden, Austin A. Discussion..... 42  
Hay Fever a Public Health Problem?  
Tell Nelson, Chicago..... 44  
Head, Jerome R. Paper..... 447  
Heart Disease, Classification of. Na-  
than S. Davis, Ill, Chicago..... 131  
Hedblom, Carl A. Paper..... 238  
Heineck, A. P. Paper..... 559  
Herrold, Russell T. Paper..... 440  
Hitchens, A. P. Discussion..... 218  
Hoffman, Maurice J. Paper..... 221  
Hospitals in Compensation Cases. (E) 188  
Houston, Hubert S. Paper..... 161  
Hoverson, Emil T. Paper..... 556  
Hutton, James H. Discussion..... 153  
Hyperglycemic States and Insulin.  
George A. Wiltrakis, Elgin, Ill.... 502  
Hypotension, Treatment in Arterial.  
Don. C. Sutton and Harold C.  
Lueth, Chicago ..... 500

## I

Illinois Pioneers of Medicine. Lu-  
cius H. Zeuch, Chicago..... 470  
Illinois State Medical Society Activ-  
ities. (E) ..... 383  
Illinois State Medical Society, Annual  
Meeting, Preliminary Program. (E) 292  
Illinois State Medical Society, Official  
Program. (E) ..... 391  
Illinois State Medical Society Service  
to Medicine. Philip H. Kreuscher,  
Chicago ..... 427  
Immunization Re Acute Contagious  
Disease. Hubert S. Houston,  
Springfield ..... 161  
Insanity, Cases of Induced. C. H.  
Anderson, Moline, Ill..... 357  
Intestinal Obstruction. Wm. R.  
Cubbins, Chicago, and Amos Fey,  
Galesburg ..... 203

## J

Jonas, Emil. Paper..... 67

Judah, L. N. Paper..... 273  
Junkin, H. D. Paper..... 264  
Jurgens, H. J. Discussion..... 211

## K

Kordenat, Ralph A. Paper..... 218  
Kreuscher, Philip H. Paper..... 427  
Kreuscher, Philip H. Paper..... 493

## L

Ladd, Dwight J. Paper..... 548  
Lash, A. F. Paper..... 402  
Lay Dictation. (E)..... 4  
Lebensohn, James E. Paper..... 156  
Left-handed Person. (E)..... 286  
Lewison, Maurice. Paper..... 521  
Lindberg, Don. Paper..... 442  
Lueth, Harold C. Paper..... 500

## M

Maher, C. C. Paper..... 140

## MARRIAGES:

Bolotin, Max Thomas, Chicago..... 568  
Camp, Harold M. Monmouth, Ill. 278  
Carey, Charles Kennedy. Rushville,  
Ill. .... 181  
Endres, Fred Carl. Peoria, Ill.... 374  
Fausel, Harry John. Chicago.... 89  
Fazio, Rocco John. Chicago..... 89  
Gernon, J. Talbot. Chicago..... 89  
Greenstein, Harry. Chicago..... 473  
Hemphill, Robert B. Oak Park,  
Ill. .... 374  
Henson, Earle E. Princeville, Ill. 374  
Karabin, Andrew Le Roy. Chicago 89  
Keyes, Donald. Chicago..... 374  
Kloess, Edward John. Belleville,  
Ill. .... 89  
Mathis, Alvin Leroy. Elmhurst,  
Ill. .... 89  
McGrath, Philip R. Peoria, Ill.... 181  
Plumer, Thomas Robert. Trivoli,  
Ill. .... 89  
Pool, Clarence G., Compton, Ill.... 568  
Reagan, Sheldon Wilson. Elgin,  
Ill. .... 278  
Rubin, Henry H., Chicago..... 568  
Sandberg, Ivan Magnus. Lostant,  
Ill. .... 89  
Schiele, William Christopher. Ga-  
lena. .... 90  
Siegert, Rudolph B. Pana, Ill.... 90  
Simon, Sylvan William. Chicago. 181  
Sheldon, Albert Rufus. Highland  
Park, Ill. .... 181  
Shuman, Harry W. Rock Island,  
Ill. .... 374  
Smith, Charles G. Red Bud, Ill.. 90  
Sokolowski, Felix Walter. Alton. 473  
Sullivan, Florence L., Freeport, Ill. 568  
Swanson, Paul E. Peoria, Ill.... 90  
Wakefield, Howard. Chicago..... 181  
Wiley, Howard E. Rockford, Ill.. 374  
Zakon, Samuel Joseph. Chicago.. 374

Maternal Mortality Report a Boom-  
erang. (E)..... 483  
Mayer, Leo. L. Paper..... 258  
McCool, Dick C. Paper..... 535  
McEnery, Eugene. Paper..... 252  
McNally, Andrew. Paper..... 536  
McNichols, W. A. Discussion..... 234  
McReynolds, Ralph. Discussion... 47

McShane, J. J. Discussion..... 35  
Medical Economics. R. R. Ferguson,  
Chicago ..... 128  
Medical Economics. E. S. Hamilton  
..... 11, 104, 191, 288, 386  
Medical Profession Indicted as a  
Herod. (E) ..... 377  
Medical Profession May Receive a  
Joker. (E) ..... 484  
Medical Relief for Emergency Only.  
(E) ..... 97  
Medicine, Red or Red, White and  
Blue. (E) ..... 281  
Medical Services under FERA of  
1933. William C. Woodward, Chi-  
cago ..... 454  
Medicine, The Future of. Charles H.  
Whalen, Chicago ..... 25  
Medicine in New Deal. Peter T. Swa-  
nish, Chicago ..... 505  
Methyl Chloride Poisoning. Albert  
Van der Kloot, Chicago..... 508  
Michigan State Medical Society Re  
Socialized Medicine. (E) ..... 335  
Milbank Memorial Fund Re Social-  
ized Medicine. (E) ..... 187  
Miller, H. P. Paper..... 340  
Moore, J. J. Discussion..... 25  
Mostrom, H. T. Paper..... 21  
Munns, George F. Paper..... 523  
Murphy, E. S. Paper..... 255  
Muskat, Irving. Discussion..... 233  
Myeloma, Multiple. Geo. B.  
Stricker, Springfield, Ill..... 335  
Myocarditis, Acute Infectious. James  
G. Carr and James A. Walsh, Ev-  
anston ..... 134

## N

Nelson, Tell. Paper..... 44  
News Items..... 91, 182, 279, 375, 475  
Nicol, M. Louise. Paper..... 244  
Non-Surgical Chronic Abdominal  
Pain. John Deal, Springfield.... 149  
Nordholz, William C. Discussion... 33  
Nutrition, Causes for Poor. C. An-  
derson Aldrich, Winnetka..... 51  
Nutrition Re Acute and Chronic Con-  
ditions. Stanley Gibson, Chicago.. 54

## O

Occupational Disease. M. Earl Bren-  
nan, East St. Louis..... 29  
Ocular Signs and Findings Exoph-  
thalmic Goiter. Elias Selinger, Chi-  
cago ..... 319  
Olin, Harry A. Paper ..... 57  
Ophthalmoscopic Findings in Hyper-  
tension. James E. Lebensohn, Chi-  
cago ..... 156  
Opportunity for the Profession. (E) 96  
Orndoff, Benjamin H. Discussion... 267  
Overtrained Doctors, Undertrained  
Physician. (E) ..... 2

## P

Papers for Annual Meeting. (E)....  
..... 9, 102, 194  
Paramedian Incision. George DeTar-  
nowsky and P. J. Sarma, Chicago. 64  
Pardoll, Davis H. Paper..... 449  
Parmelee, A. H. Paper..... 53  
Patry, Frederick L. Paper..... 246

Perry, Jentz. Discussion.....	266
Personals.....90, 181, 278, 374,	474
Peters, John. Paper.....	221
Physical Defects which Influence Nutrition. A. H. Parmelee, Oak Park, Ill. ....	53
Physical Examination of the Child. W. L. Crawford, Rockford, Ill....	49
Physician the Goat in Every Human Crisis. (E) .....	94
Physician, The Young. W. A. Newman Dorland, Chicago.....	348
Pilot, Isidore. Paper.....	529
Pollak, M. Discussion.....	243
Poppen, P. H. Discussion.....	221
Practice of Medicine, Perils and Pitfalls. (E) .....	485
Pregnancy, Abdominal. Ten Cases. Edward L. Cornell and A. F. Lash, Chicago .....	462
Prenatal Care Re Lay Audiences. Esther Schmucker, Tiskilwa, Ill.....	223
Preventability and Horse Sense. (E) .....	380
Preventable Disease, Misconceptions Re. L. N. Judah, Urbana.....	273
Progressive Medicine. R. W. Binney, Granite City, Ill.....	345
Prostate Gland, Chronic Infections of. Clarence H. Boswell, Rockford....	254
Psychoanalytic Doctrine of the Unconscious. Isadore Finkelman, Elgin .....	457
Psychology and Mental Hygiene of Personality. Frederick L. Patry, Albany, N. Y. ....	246
Public Health Nurse Re Medical Profession. M. Louise Nicol, Peoria. ....	244
Pyuria, Chronic in Childhood. John A. Bigler, Highland Park.....	235

## Q

Quinidine, Present Day Uses of. Lewis W. Woodruff, Joliet, Ill....	144
--	-----

## R

Radiotherapy and Surgery Re Malignancy. H. D. Junkin, Paris, Ill..	264
Rawlings, I. D. Discussion.....	48, 171
Reaching Out for Profession. (E)....	482
Reed, Charles B. Paper.....	425
Reprehensible Medical English. (E). ..	290
Rheumatic Disease and Sore Throat re Hemolytic Streptococci. Isadore Pilot and David J. Davis, Chicago. ....	529
Rich, Cincy. Discussion.....	212
Richardson, Garwood C. Paper.....	367
Richter, Harry M. Paper.....	159
Ritch, C. Otis. Paper.....	370
Ritter, John. Paper.....	431

## S

Saelhof, Clarence C. Paper.....	457
Sanatoria and Rest Homes for Mental Patients. John M. Grimes, Chicago .....	154
Sappington, C. O. Discussion.....	36
Sarma, P. J. Paper.....	64

Schmucker, Esther. Paper.....	223
School Health and Hygiene. Francis L. Bacon, Evanston, Ill.....	213
Schultz, Louis. Discussion.....	42
Selinger, Elias. Discussion.....	234
Selinger, Elias. Paper.....	319
Sex Hormones. August A. Werner, St. Louis, Mo.....	511
Shanks, Joseph. Paper.....	338
Smith, R. Denton. Paper.....	258

## SOCIETY PROCEEDINGS:

Bond County. Dec. 8.....	180
Bureau County .....	566
Champaign County. Jan. 10.....	180
Champaign County, April 12, May 10 .....	566
Cook County	
Chicago Medical Society, Dec. 13, 16 and 20.....	88
Jan. 10, 14, 17, 24, 31.....	180
February 14 and 28.....	277
March 7, 14, 21 and 28.....	373
April 18 .....	473
Greene County. March 9.....	473
Kane County. Dec. 13.....	89
Macoupin County, Jan. 23, March 27 .....	566
Madison County. Jan. 5 and 8....	181
April 6 .....	473
Ogle County. Jan. 31.....	277
Ogle County, April 26.....	566
Peoria City. Dec. 5.....	89
Perry County, May 3.....	566
Randolph County. March 8.....	373
St. Clair County.....	567
Vermilion County, May 15.....	567
Warren County, May 3.....	567
Winnebago County. Jan. 9.....	181
Solomon, Meyer. Paper.....	329
Springfield. (E) .....	389
Springfield Points of Interest. (E). ..	417
Squint Surgery, Analytical Study of M. L. Folk, Chicago.....	268
Stenosis, Organic Esophageal. M. A. Glatt, Chicago .....	358
Sterility, Management of. Marshall Field, Chicago .....	543
Stericker, George B. Paper.....	335
Streicher, M. H. Paper.....	520
Stovarsol re Syphilis. Walter Wilhelmj, East St. Louis, Ill.....	553
Stuttering, Its Nature and Mechanism. Meyer Solomon, Chicago... ..	329
Sutton, Don C.....	138
Sutton, Don. C. Paper.....	500
Swanberg, Harold. Discussion.....	266
Swanish, Peter T. Paper.....	503

## T

Talbert, W. M. Discussion.....	169
Telford, E. W. Paper.....	564
Tharp, Death of Dr. (E).....	103
Tonsils, Dissection of. R. H. Good, Chicago .....	37
Tryparsamide Treatment of Syphilis Re Ocular Signs. Leo L. Mayer and R. Denton Smith, Chicago....	258

Tuberculosis, Classification of Pulmonary. John Ritter, Miami, Fla....	431
Tuberculosis, Diagnosis of Pulmonary. Maurice Lewison, Chicago.....	521
Tuberculosis, Early Diagnosis of Pulmonary. Don Lindberg, Decatur..	442
Tuberculosis, Pneumolysis in Treatment of Pulmonary. Jerome R. Head, Chicago .....	447
Tuberculosis in Childhood. Eugene T. McEnery, Chicago.....	252

## U

Ulcer, Surgical Treatment of Gastric and Duodenal. Harry M. Richter, Chicago .....	159
Ulcers, Gastric. Surgical Treatment of Ruptured. Emil Jonas, Chicago ..	67
Uteral Catheterization in Gynecological Surgery. Clarence C. Saelhof, Chicago .....	457
Ureterocele. Davis H. Pardoll, Chicago .....	449
Urethritis, Non-gonorrheal. Andrew McNally, Chicago .....	536
Urination in Women Re Urethral Lesions. Earl E. Ewert and Russell T. Harrold, Chicago .....	440

## V

Van der Kloot, Albert. Paper.....	508
Varicose Veins, Treatment of. Hawthorne C. Wallace, Chicago.....	545
Veterans' Dinner at Annual Meeting. (E) .....	195, 290
Vioosterol in Pregnancy. Garwood C. Richardson, Chicago .....	367
Visualization of Liver and Spleen. Dick C. McCool, Kankakee, Ill....	535

## W

Wallace, Hawthorne C. Paper.....	545
Walsh, James A. Paper.....	134
Weinstein, M. L. Paper.....	70
Werner, August A. Paper.....	511
West, J. C. Paper.....	21
Whalen, Charles J. Paper.....	25
White, Cleveland. Paper.....	355
Wilhelmj, Walter. Paper.....	553
Williams, E. G. C. Discussion.....	266
Wiltrakis, George A. Paper.....	502
Witting, Vito. Paper.....	451
Woman's Auxiliary .....	15, 112, 200, 314, 421
Woodruff, Harry. Discussion.....	127, 158, 233
Woodruff, Lewis W. Paper.....	144
Woods, R. H. Discussion.....	234
Woodward, William C. Paper.....	454
Work and Live for Profession. (E). ..	93

## Z

Zakon, S. J. Paper.....	458
Zeuch, Lucius H. Paper.....	470



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

Vol. LXV, NO. 1

OAK PARK, ILL., JANUARY, 1934

\$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for Titles) ..... 1

### ORIGINAL ARTICLES

Embryonal Adenocarcinoma of the Kidney in Childhood. *H. T. Mostrom, M. D., and J. C. West, Batavia, Ill.*..... 21  
The future of Medicine. *Charles J. Whalen, M. D., Chicago.*..... 25  
Occupational Disease. *M. E. Brennan, M. D., East St. Louis, Ill.*..... 29  
Dissection of Tonsils and Tonsil Stumps. *R. H. Good, M. D., Chicago.*..... 37  
Is Hay Fever a Public Health Problem? *Tell Nelson, M. D., Evanston, Ill.*..... 44

Physical Examination of the Child. *W. L. Crawford, M. D., Rockford, Ill.*..... 49  
Causes for Poor Nutrition Other than Physical. *C. Anderson Aldrich, M. D., Winnetka, Ill.*..... 51  
Physical Defects influencing Nutrition which admit of Correction. *A. H. Parmelee, M. D., Oak Park, Ill.*..... 53  
Influence of Acute and Chronic Conditions on Nutrition. *Stanley Gibson, M. D., Chicago.*..... 54  
Cow's Horn in Internal Fixation of Fractures. *Edson B. Fowler, M. D., Chicago.*..... 56  
Cholecystography. *Harry A. Olin, M. D., Chicago.* 57  
Paramedian Incision. *George de Tarnowsky, M. D., and P. J. Sarma, M. D., Chicago.*..... 64

(Continued on Page 8)

**Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934**

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918.

## MILWAUKEE SANITARIUM

### RESIDENT STAFF

ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.

MERLE Q. HOWARD, M.D.  
CARROLL W. OSGOOD

## WAUWATOSA, WISCONSIN

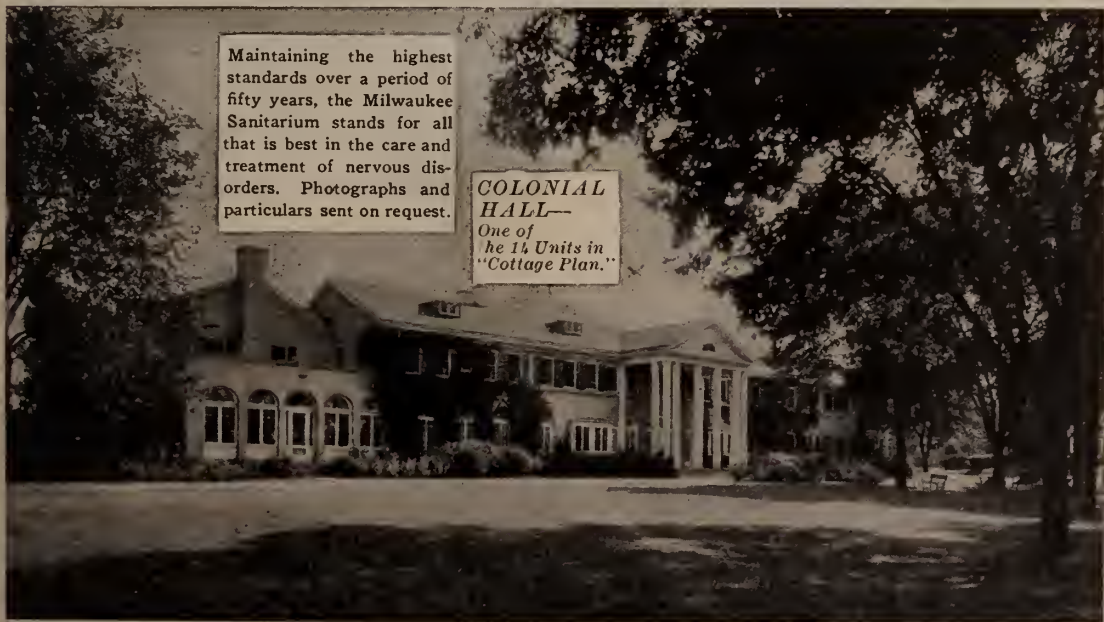
(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

### ATTENDING STAFF

H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

Maintaining the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

COLONIAL  
HALL—  
One of  
the 14 Units in  
"Cottage Plan."



"The Advertising Pages have a Service Value for the READER that no truly Progressive Physician can afford to overlook."

***a* new anti-anemic preparation  
with a tang and zest all its own**

# **AUTOLYZED LIVER *Concentrate***

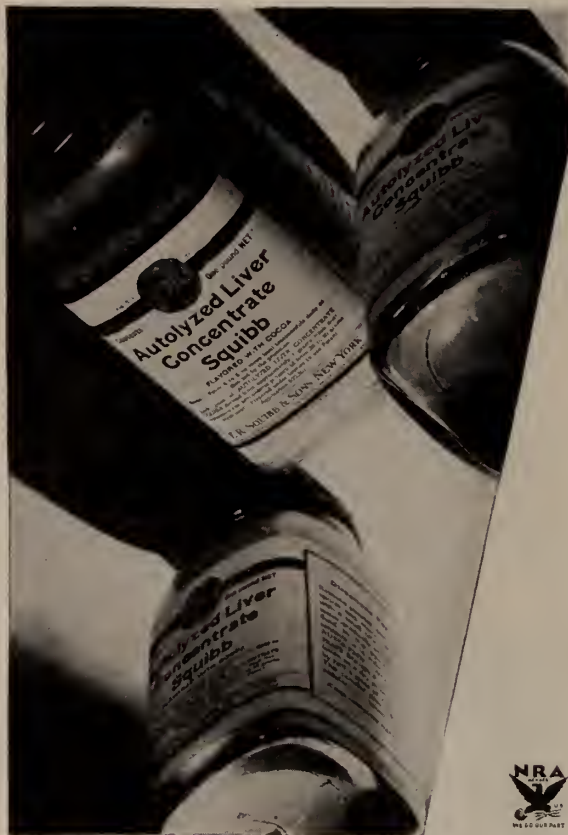
# **SQUIBB**

AUTOLYZED LIVER CONCENTRATE SQUIBB provides all the blood regenerative properties of whole liver and yet its taste is far removed from liver itself. It has a tang and zest all its own when mixed with sweet butter and spread on bread. It can be taken also in warm bouillon or dissolved in milk.

Autolyzed Liver Concentrate is not like any other liver preparation. It is not an extract. It is prepared from whole liver, *autolyzed*, powdered and flavored with cocoa. Its use is promptly followed by a noticeable increase in red blood cells and hemoglobin and a noteworthy improvement in appetite, weight and strength.

Although primarily designed for use in the treatment of pernicious anemia, it deserves study as a diet supplement of convalescents particularly after operations where the blood loss has been severe or in the anemias of pregnancies. In addition to its anti-anemic potency it has almost twice the Vitamin B and G activity of dried yeast.

Autolyzed Liver Concentrate Squibb is economical to use—costing as little as 7 cents a day



Manufactured under license to use U. S. Patent Application Serial No. 620,301. Marketed in ½ and 1-lb. bottles. Council accepted

for the first year's treatment of an uncomplicated case of pernicious anemia. One gram of the concentrate is equal in anti-anemic potency to from 20 to 30 grams of fresh liver.

---

**E·R·SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

---



# COMFORT

—The urgent desire  
of patients with  
urinary infections



SOLUTION  
FOR CHILDREN  
•  
CAPSULES FOR  
ADULTS



THE pressing desire of some patients with urinary infections for relief from local symptoms may be met with Caprokol.

Even elderly patients, who are not in condition to endure radical procedures or even the usual diagnostic study, may frequently be kept comfortable—practically free of local symptoms — for indefinite periods with no other treatment than Caprokol by mouth.

Caprokol is excreted by the kidneys largely as a conjugate, but in sufficient concentration in the free state to impart active bactericidal properties to the urine. Hence its activity in the treatment of urinary infections.

## CAPROKOL

(Hexylresorcinol, S & D)

Sharp & Dohme

Pharmaceuticals      Biologicals  
Philadelphia      Baltimore  
Montreal

# THELESTRIN

## OVARIAN FOLLICULAR HORMONE

A standardized preparation of the ovarian follicular hormone for intensive ovarian therapy by hypodermic injection.

Indicated in the treatment of scanty menstrual flow,

amenorrhea and the vasomotor and nervous symptoms of the menopause.

Each ampoule contains 25 rat units standardized by the Allen-Doisy method.

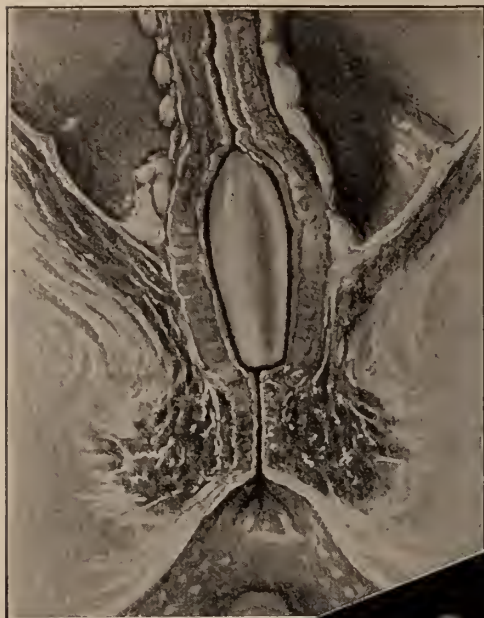
*Boxes of 6 1-cc. ampoules*

• G. W. CARNRICK CO. •

20 Mt. Pleasant Ave.

Newark, N. J.





# ANATOMICALLY CORRECT



## WYANOIDS

(Wyeth's Hemorrhoidal Suppositories)

The torpedo shape allows the insertion of the pointed end first. As the widest diameter passes the sphincter muscle, the Wyanoid spontaneously moves inward where it is retained, melted and the therapeutic ingredients liberated.

Wyanooids quickly allay pain, reduce inflammation, restrict bleeding.



**JOHN WYETH & BROTHER, Inc.**

PHILADELPHIA, PA. and WALKERVILLE, ONT.



## BEHOLD A RUGGED INDIVIDUALIST

**W**HEN big eyes cloud with tears and little lips frame an obstinate "I won't," a serious handicap confronts the mother in carrying out your instructions.

Sometimes there is nothing that can be done about it. Any effort on your part to make the treatment easier to follow might mean a compromise with effectiveness. But in vitamin therapy that is, happily, no longer the case.

Now, by prescribing Parke-Davis Haliver Oil, you can obtain full therapeutic effects from a few

friendly drops instead of terrifying teaspoonfuls of cod-liver oil or other hard-to-take preparations.

Parke-Davis Haliver Oil products simplify and solve the troublesome question of how to administer vitamins A and D scientifically and at the same time *pleasantly*. This means less revolt among your younger patients—a program that mothers can follow out *to the letter*. And it also means that you can now administer vitamins A and D in a form which is really acceptable to

adults who, as you know, often are the biggest babies of all when it comes to taking medicine they don't like!

Parke-Davis Haliver Oil (either Plain or with Viosterol-250 D, in bottles or in capsule form) is available at practically all drug stores in the United States and Canada.

**HALIVER OIL WITH VIOSTEROL-250 D**  
Containing 32,000 vitamin A units (U. S. P. X.)  
and 3,333 vitamin D units (Sislenock) per gram.

**HALIVER OIL PLAIN**  
32,000 vitamin A units (U. S. P. X.) and 200  
vitamin D units (Sislenock) per gram.

**PARKE, DAVIS & CO.** • *The World's Largest Makers of Pharmaceutical and Biological Products*

# RELIEF IN CYSTITIS



THE  
RESULT OF  
PYRIDIUM  
ORALLY  
ADMINISTERED

With the oral administration of Pyridium a clearing of cloudy urine may be expected in cases of urinary infection. Prompt relief of the distressing symptoms that often accompany such conditions as cystitis, pyelitis, and urethritis is usually obtained.

**MERCK & CO. Inc.**  
Manufacturing Chemists  
• RAHWAY, N. J. •

## For YOUR ADULT PATIENTS



### In Gastric and Intestinal Disturbances

It is palatable, easily retained and is an excellent source of food and energy.

### In Ulcer

It is bland, easily digested, and capable of rapid and complete assimilation.

### In Dysentery

It enhances the nutritive value of a low-residue diet.

### In Tuberculosis

It is an easily digested and highly nourishing adjunct to the regular diet.

### In Febrile Diseases

It is palatable, easily increases the fluid intake, and is quickly assimilable.

### In Surgical Cases

It is a starch-free, maltose and dextrins carbohydrate, easily assimilated, which reduces the danger of acidosis and favors the retention of body fluids and salts.

*Mellin's Food: Produced by an infusion of Wheat Flour, Wheat Bran and Malted Barley admixed with Potassium Bicarbonate — consisting essentially of Maltose, Dextrins, Proteins and Mineral Salts.*

Samples of Mellin's Food Gladly Supplied—to Physicians

**MELLIN'S FOOD COMPANY**  
Boston, Mass.



# Increased Efficiency!

# Greater Safety!

# in THYROID THERAPY

---

RECENT biological researches have led to the isolation of a highly active thyroid substance of lower toxicity than the desiccated extracts.

This product, called Thyractin, has been thoroughly tested in various types of hypothyroidism, especially obesity. Reductions in weight of 15 pounds in two weeks and 27 pounds in four weeks have been observed without occurrence of unpleasant effects.

Thyractin is standardized biologically (each tablet representing 10 guinea pig units)—a better basis than iodine content for determining metabolic activity.

*Supplied in tablets of 25 mg.,  
tubes of 25 and bottles of 100*

## THYRACTIN

Reg. U. S. Pat. Off. and Canada

Brand of PROTHYRIN



*Literature on action and therapeutic uses of Thyractin will be sent to physicians on request.*

---

## WINTHROP CHEMICAL COMPANY, Inc.

*Pharmaceuticals of Merit for the Physician*

170 Varick Street, New York, N. Y.

Canada: Windsor, Ont.

Other Winthrop Products: Avertin — Luminal — Phanodorn — Theominal

## THREE FACTORS are essential in BLOOD REGENERATION:

1. Formation of erythrocytes, stimulated by liver extract.
2. Formation of hemoglobin, stimulated by iron in an easily assimilable form.
3. Formation of the organic part of the hemoglobin molecule, facilitated by supplying the closely related animal hemoglobin.

The three principles are combined in

## HEMO-S

which also contains that fraction of liver, rich in copper, which is active in

## SECONDARY ANEMIA

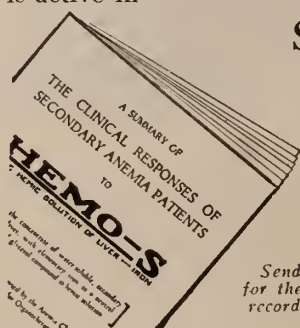
Hemo-S proved to be of the highest efficacy in most types of Secondary Anemia.

Write for literature to

### CHAPPEL BROS. INC.

Laboratories

Rockford, Illinois



Send  
for these  
records

### CONTENTS—Continued

Surgical Treatment of Ruptured Gastric Ulcers. Emil Jonas, M. D., Chicago.....	67
Diagnosis of Fetal Monster with Polyhydramnios by Prenatal Roentgenological Examination. M. L. Weinstein, M. D., and H. Cotell, M. D., Chicago.....	70

#### EDITORIALS

Happy New Year.....	1
Overtrained Doctors vs. Physicians.....	2
Lay Dictation Hampers Progress.....	4
Is Group Hospitalization a Healing Aid?.....	5
Sign A. M. A. Directory Card.....	9
Doctors to Present Papers.....	9
Breakdown of England's Health Insurance.....	10
Adv. Solicitor Wanted.....	10

#### MEDICAL ECONOMICS

Why Not Conduct Business in Business Way?.....	11
--	----

#### CORRESPONDENCE

Every Family Doctor a Public Health Official.....	12
Passing Diagnosis to Laboratory. C. B. Younger.....	12
Charging for Medical Services. J. R. Ingram.....	13
General Practitioner the Sheet Anchor. Thomas P. Foley.....	13
Spirit of 1934. Mrs. W. R. Cubbins.....	14
Woman's Auxiliary Reports.....	15
Educational Committee, November-December.....	18
Every Ethical Physician.....	75

#### SOCIETY PROCEEDINGS

Cook County, Chicago Medical Society.....	88
Kane County.....	89
Kankakee County.....	89
Marriages.....	89
Personals.....	90
News Notes.....	91
Deaths.....	92

## SEVEN YEAR'S USE

has demonstrated the  
value of

The Surgical Solution  
of

### MERCUROCHROME, H. W. & D.

in

### Preoperative Skin Disinfection

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

Literature on request

Hynson, Westcott & Dunning, Inc.  
BALTIMORE, MARYLAND

"We will specify Mead's Capsules  
of Viosterol in Halibut Liver Oil 250 D  
when Mead puts them on the market"

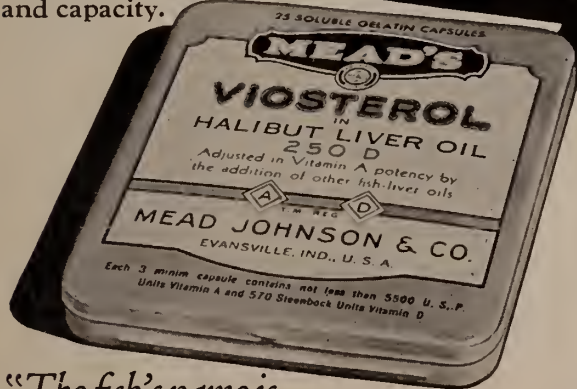
— many physicians told us.

## so now — by request we offer CAPSULES

MEAD'S VIOSTEROL IN HALIBUT LIVER OIL 250 D  
Each 3-minim capsule supplies not less than 5,500 U.S.P.  
Vitamin A units and 570 Steenbock Vitamin D units.

WHEN recommending Mead's Capsules, the physician is now assured of the same high grade product which is marketed by Mead in liquid form, and he also knows that Mead's Capsules are not advertised to the public.

Furthermore, the physician who prefers his patients to have these capsules with a prescription label and without a trade name will be interested in the special Mead dispensing package containing 4 plain unlabelled boxes of 25 capsules each, to which the druggist's own label can be affixed. This obviates the need for the druggist either to paste his prescription label over a trade package or to rehandle the capsules in transferring them to his own capsule container which may or may not be of suitable size, shape, and capacity.



### THE NEAT TIN BOX

contains 25 Mead Capsules and assures maximum protection in all climates and seasons to both capsules and clothing. No additional charge for this convenient fine package. Specify MEAD'S — not advertised to the public.

*"The fish's name is  
HALIBUT" —  
Specify MEAD'S*

**MEAD JOHNSON & COMPANY, Evansville, Indiana, U.S.A.**

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons



# Not a Specific ...and yet

(\*) "of the 17 patients, 14 had immediate relief symptoms. . . ."

From paper on "The Treatment of Peptic Ulcer" by Drs. Meyer, Seldmon and Necheles of the Stomach Study Group, Michael Reese Hospital, Chicago, published in the October issue of the Illinois Medical Journal. Copy of this paper may be had on request.

The fact remains that a surprisingly large percentage of ulcer cases (\*), as well as cases of gastric inflammation and irritable colon, yield to VegeMucene treatment in a way that many physicians have termed . . . "striking."

There are different types of ulcer, widely different types of "irritable colon" and different degrees of severity in gastric inflammation and other irritations of the gastric mucosa. This being so, obviously then, there can be no one standard procedure of treatment.

And yet, one fact remains **impressively demonstrated**. It is this:

VegeMucene gives striking and quick relief of pain and associated symptoms in a surprisingly high percentage of cases of peptic ulcer—in gastric inflammations and borderline cases of hyperacidity, as well as in many conditions of "irritable colon."

This has been demonstrated time and again during the past 12 months, on an impressively large scale, in representative clinics in Chicago and other large centers, as well as in the private practice of some of America's foremost physicians. Reports voluntarily rendered tell of many such experiences with hospitalized as well as ambulatory patients.

## Economic Advantages

In this connection it is interesting to observe that VegeMucene therapy does not require the hospitalization of the patient. Vege-Mucene patients in most cases may go about their duties without interruption of routine—a matter of importance to both physician and patient in these times of economic stress.

Which prompts us to emphasize another important feature of VegeMucene therapy. It is quite economical for the patient, calling for an expenditure of but \$5.50 per month in the average dosage likely to be prescribed.

We might elaborate this theme greatly. We could, as indicated, introduce a mass of supporting evidence from accumulated reports in our files.

## The Burden of Proof

However, doctor, instead of burdening you with an overwhelming mass of printed evidence, we prefer to submit to you that which we believe to be the very strongest proof of efficiency that can possibly be offered on behalf of a product—the product itself.

That is all we ask—the opportunity to place in your hands a sample of VegeMucene for clinical trial by you—in your own practice—with patients of your own selection—under conditions you yourself impose—you to be the sole judge and final arbiter. There in your hands we are content to rest our case.

For this purpose, doctor, may we send you a sample of VegeMucene together with covering literature. A word from you will bring this material.



## VegeMucene

Is a palatable mucinoid of pure vegetable origin which provides a protective coating for inflamed surfaces.

Clinical work shows that VegeMucene affords rapid and effective relief from pain and other associated symptoms of peptic ulcer, gastro-intestinal inflammations, in border-line cases of hyperacidity, as well in many cases of "irritable colon."

A 1% aqueous suspension of VegeMucene has 3.1 times the viscosity of water. A gram absorbs 5.45 cc of 1/10-N Hydrochloric Acid.

VegeMucene is available in 22 grain tablets. Bottles of 100 tablets at \$3. Bottles of 200 tablets at \$5.50. In the average dosage likely to be prescribed, the cost to the patient is but \$5.50 per month or less.

## VegeMucene

### In Alcoholic Gastritis

Because of its high absorptive qualities, VegeMucene will be found effective in those gastric conditions induced by acute alcoholism, which is likely to be greatly on the increase with the legal return of liquor.

# BioVegetin Products, Inc.

## 500 North Dearborn . . . . CHICAGO

The  
Technique is  
Easily Acquired—



# *Sodium Morrhuate 5%* WITH BENZYL ALCOHOL (*Searle*)

## The Results are Uniformly Gratifying

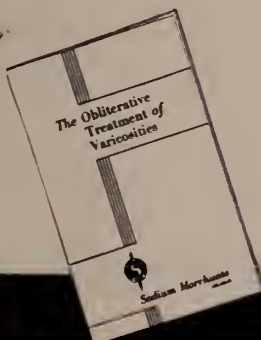
In their article "Studies on the Comparative Value of Intravenous Sclerosing Substances" (Proc. Soc. Exper. Biol. & Med. 30:1180, June, 1933), Ochsner and Mahorner report on animal experiments undertaken for the purpose of determining the extent of sclerosis and thrombus production by various agents. They state:

"**THROMBUS PRODUCTION.** Searle's Sodium Morrhuate produced thrombosis in the greatest number of instances, 71.4% of the veins; sodium gynocardate (5%) in 50%, sodium gynocardate (3%) in 50%, sodium gynocardate (2%) in 44%, sodium hydno-

pate (5%) in 37.5%, sodium morrhuate (own, 5%) in 33%, sodium hydnohypocarpate (3%) in 33%, sodium morrhuate (10%)\* in 19%, and sodium hydnohypocarpate (2%) in 12.5%."

**SODIUM MORRHUATE 5%** with BENZYL ALCOHOL is a stable solution of sodium morrhuate to which 2% of benzyl alcohol is added. Combined with this outstanding sclerosing efficacy it provides the advantages of low toxicity, comparative freedom from cramping and pain, and little tendency toward necrosis or sloughing when accidental extravasation occurs. Its technique is simple and easily acquired.

A special monograph on the obliterative treatment of varicosities, with particular attention to technique in varicose veins as well as hemorrhoids, will be mailed upon request.



\*Of another make.

*G.D. Searle & Co.*

FINE PHARMACEUTICALS SINCE 1888

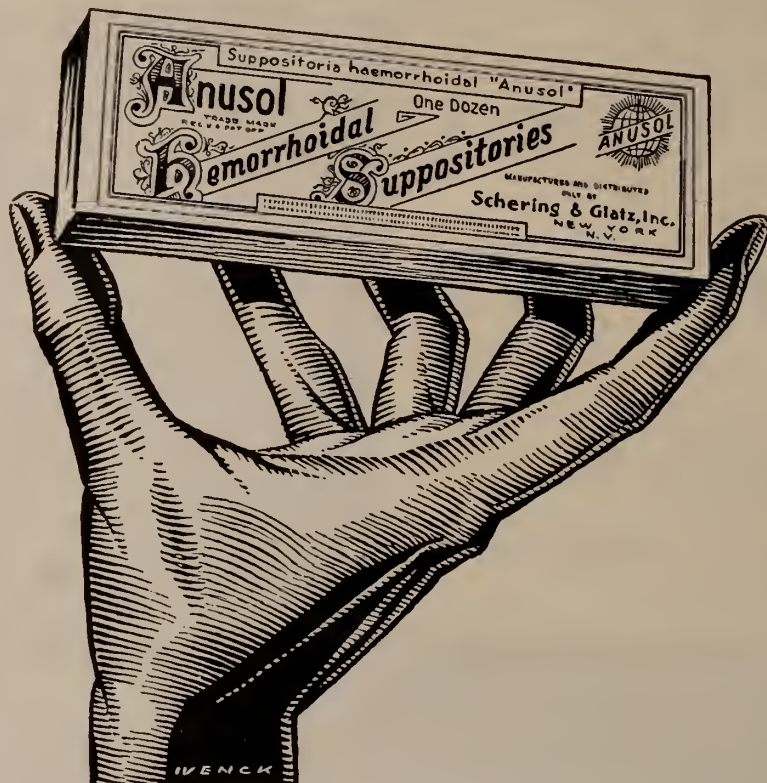
KANSAS CITY

LOS ANGELES

CHICAGO

SPOKANE

# COUNCIL ACCEPTED



# A N U S O L

A FAMILIAR PACKAGE to many physicians, and each suppository in it a promise for relief in hemorrhoids. Imitations come and go. But the therapeutic worth of Anusol Suppositories, Schering & Glatz, is only emphasized in comparison. When pain and discomfort must be relieved, congestion reduced and bleeding checked in hemorrhoids—nothing will do it more promptly and efficiently than Anusol Suppositories, Schering & Glatz. Yet no narcotic, analgesic or anesthetic drug enters into their composition. The relief Anusol Suppositories give is genuine. Let us acquaint you with Anusol Suppositories, Schering & Glatz, by sending you a trial supply.

Anusol is registered in the U.S. Pat. Off.

SCHERING & GLATZ, INC. 113 WEST 18TH ST. NEW YORK CITY

Please mention ILLINOIS MEDICAL JOURNAL when writing to advertisers



Exclusively Engaged  
in providing  
**Professional Protection**

Thirty-five Years  
of



*The* **Medical Protective Company**  
of Fort Wayne, Ind.  
**WHEATON, ILLINOIS**

# NO FISHY TASTE *because* they contain the **PALATABLE** **FRUIT AND VEGETABLE FORM OF VITAMIN A**

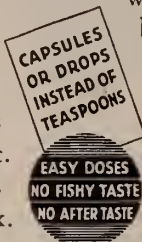
## CARITOL, for A, alone—



Caritol is a 0.3% solution of Carotene ( $C_{40}H_{56}$ ), the palatable fruit and vegetable form of vitamin A, and therefore represents the form in which most vitamin A is naturally consumed by the human body.

### Helps Build Resistance and Promotes Growth

Caritol, by virtue of its vitamin A activity, promotes growth and, as indicated by experimental studies, may be an aid toward the establishment of resistance of the body to infections in general. It may be prescribed alone or with other vitamin products. There is no fishy taste or bad after-taste. The cost is reasonable, too. Caritol is available in 15 c.c. and 50 c.c. dropper-top bottles and in capsules packed 25 and 50 to the box.



## CARITOL-with-Vitamin D



Caritol-with-Vitamin D is the most palatable combination of vitamins A and D on the market because it contains the fruit and vegetable form of vitamin A, carotene, and a tasteless vitamin D prepared for therapeutic use by methods (Zucker process) developed at Columbia University. It is naturally palatable, not artificially flavored.

### For A and D, together in Palatable Form

Caritol-with-Vitamin D is, therefore, especially recommended for patients who need both vitamins A and D, but object to the fishy taste of fish liver oils and their concentrates.

There is no fishy taste or bad after-taste, and the cost is reasonable. Available at prescription pharmacies in 5 c.c. and 50 c.c. dropper-top bottles and in 25-capsule boxes.

*Prescribe these naturally palatable vitamin products — they cost no more.*

Taste the carotene products yourself. Write for samples. We also offer *Smaco Cod Liver Oil fortified with carotene and vitamin D* for those physicians who prefer to prescribe cod liver oil. It is three times as potent in *both* vitamins A and D. Therefore one teaspoon is equivalent to three teaspoons of good grade cod liver oil. Improved flavor and minimum cost to patient. For vitamin D alone (for the prevention or cure of rickets), we offer *Smaco Vitamin D*, a highly potent extract of the antirachitic principle of cod liver oil prepared by methods (Zucker process) developed at Columbia University. Ten drops equivalent in vitamin D potency to three teaspoons of good grade cod liver oil.



**S.M.A. CORPORATION**

**CLEVELAND, OHIO**

*"World's Largest Producer of Carotene"*

© 1933





# CAL-BIS-MA

A TEASPOONFUL by the measure —three minutes by the clock, is the efficiency story of Cal-Bis-Ma in gastric neutralization. Sodium bicarbonate and magnesium carbonate for quick neutralization, calcium carbonate and bismuth for prolonged action.

And, in addition, *colloidal kaolin* to supplement the bismuth salts for soothing and protecting the irritated mucous membrane, and to adsorb gases that may form in the stomach. Well adapted for the alkaline treatment of gastric ulcer.

In nausea of pregnancy exceptionally good reports are being received.

WE WILL GLADLY SEND A  
COMPLIMENTARY TRIAL SUPPLY.

**WILLIAM R. WARNER & CO. INC.**

113 WEST 18TH STREET, NEW YORK CITY



*Today*

## Don't delay prescribing *Nephritin*

Surest results are dependent upon prompt treatment

Nephritin should be prescribed for your patient with renal disease—not next week, next month, or a half-year from now—but *at once*. It is practically assured that a prolonged course of Nephritin will bring about marked improvement. Failure can usually be traced to inadequate dosage or too early cessation of treatment. Nephritin has been employed with success for more than thirty years by physicians.



REED & CARNRICK, Jersey City, N. J., U.S.A.  
TORONTO, ONT., CANADA

Canadian Distributors:  
W. LLOYD WOOD, Ltd.  
64 Gerrard Street, E.  
Toronto, Canada

British Distributors:  
COATES & COOPER, Ltd.  
94, Clerkenwell Road  
London, E.C.1.

# THE MUCIN TREATMENT OF *Peptic Ulcer*

## NOW AVAILABLE to the GENERAL PRACTITIONER



*Right leg of frog almost completely digested in acid gastric juice.*

*Left leg protected against digestion by previous immersion in gastric mucin.*

---

**DOSE:** 80 to 100 Gm. per day divided into 5 or more doses. Most conveniently administered in milk and cream. Literature containing tasty recipes sent to physicians on request.

---

THE rapidly growing list of published clinical observations, as well as questionnaire reports, on the treatment of gastroduodenal ulcerative disease by large numbers of clinicians have now established the value of this biological agent.

So many physicians have already begun to use Gastric Mucin (Stearns) that it has now become a routine prescription product.

The value of Gastric Mucin (Stearns) in ulcer patients is backed by experimental and clinical evidence. While three years is too short a time to prove definite cures, it has been sufficient to show that Gastric Mucin provides prolonged symptomatic relief and roentgenologic evidence of healing in a majority of cases in which other forms of treatment have previously proven unsuccessful.

◀ *The purity and uniformity of Gastric Mucin (Stearns) are backed by years of experience in the preparation of physiological and biological therapeutic agents. Every batch is carefully assayed by the Gastric Mucin Committee of Northwestern University Medical School.* ▶

---

**FREDERICK STEARNS & COMPANY**  
DETROIT, MICHIGAN, U. S. A.

---



# ELI LILLY AND COMPANY

FOUNDED 1876

Makers of Medicinal Products



## LEXTRON (*Pulvules No. 55*)

FOR ORAL USE IN ANEMIA AND  
OTHER CONDITIONS

A liver-stomach concentrate with  
iron and vitamin B.

*Effective*—nine capsules produce at  
least 75 percent as much hemo-  
globin as 300 grams of fresh  
liver.

*Convenient*—three capsules, t. i. d.

PROMPT ATTENTION GIVEN TO PHYSICIANS' INQUIRIES

ADDRESS ELI LILLY AND COMPANY, INDIANAPOLIS, INDIANA, U. S. A



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., January, 1934

No. 1

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1933-1934

PRESIDENT.....PHILIP H. KREUSCHER, Chicago  
PRESIDENT-ELECT.....CHARLES D. CENTER, Quincy  
1ST VICE-PRESIDENT.....C. G. FARNUM, Peoria  
2ND VICE-PRESIDENT.....H. V. GOULD, Chicago  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1934  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1934  
S. E. Munson, 5th District, Springfield .....1934  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1934  
C. E. Wilkinson, 8th District, Danville .....1935  
Andy Hall, 9th District, Mt. Vernon ....1936  
J. S. Templeton, 10th District, Pinckneyville ...1936  
Edw. S. Hamilton, 11th District, Kankakee ....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, *Secretary*.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN MCARTHUR, *Secretary*.185 N. Wabash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, *Chairman*....4034 W. Madison St., Chicago  
HAROLD M. CAMP, *Secretary*.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, *Secretary*.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Ave., Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

### HAPPY NEW YEAR

If happiness lies in labor, the medical profession is assured of an unusually "Happy New Year."

For never within the history of organized medicine have such Herculean tasks both confronted and mocked the confraternity.

Money will be easier during the coming year. This much seems assured. "The way around Robinson's barn" towards this end has been over unusually hot ploughshares and spear-like stubblefields.

Now, as usual, though the medical confraternity exists to make humanity more bearable to itself, this same humanity, with thoroughly characteristic mortal perverseness seems never so happy as when it is making life almost unbearable for the doctors. So the laity has already planned a fine program of that ilk for the year 1934. Doctor, get out and bivouac!

State medicine propagandists, communists and socialists continue their attempt to try to make of organized medicine a catspaw for pulling patriotism out of the country and letting in all sorts of socialistic schemes to the everlasting undoing of this democracy. Which is in the nature of things, and is to be expected just as much as rivers freeze in winter and ice melts in the summer.

Recognition of the U. S. S. R., by the United States brings closer and closer to the heart of our daily life the vicious angles of the land where unlearned men have declared that there is neither God, nor beauty nor poetry and in whose leviathan travail there is no room for the gentle Child of Bethlehem,—nor for honor as you and I have sensed it.

Outside of the church, nowhere has Russian chaos so affected the machinery and structure of civilized life as in the practice and principle of the ethical practice and principles of medicine. At the outset, Russian medicine strikes at that elemental and sacred tenet of the Hippocratic oath as to the preservation of life and the in-

violable promise not to perform abortion. In Russia abortion is practiced openly, and under state protection and sanction, and is as optional with a woman as is the frequency of her sham-poos and hair cuts. Even more so if the truth be told.

Further, to be considered by all doctors as to what shall constitute the new year and its happiness, is the fact that while with the best of intentions the heads of our government are attempting to give the country a "new deal" based upon codification, the very mischief is going to be to pay when the code busies itself with the practice of medicine. Economic plight of the physician has become dire during these years of Black-Hole-of-Calcutta finance. It is only right and just and honorable that some relief should be extended the profession. It is very commendable that Washington should try to lift from the shoulders of the medical profession the burden of swindling but not totally impecunious scalawags who never expect to pay a cent for medical services and who consider the physician as public an institution as the town pump. It is commendable for the government to feel that emergency relief medical service demands remuneration. But, the great trouble with all of these ideas is that the emergency relief has no money except that which comes out of the pockets of the citizenry in the form of levies or taxes or to a certain extent, gifts. Doctors are citizens and are not tax exempt. *Government interest* in the practice of medicine has so far proved to be more of the nature of *government interference*. It will be sad indeed if the nation that attempted to repudiate the sinister and overpowering bureaucracy of one party by an electoral landslide has simply exchanged one bureaucracy for another. Theorists and so-called business men and bankers are running the new deal down in Washington. So long as they stick to codifying banking and business they are probably going to do a fine job of it. It is to be noticed that these theorists, business men and bankers, have not sent out for any physicians to tell them how to codify the banks and the industries. We have in times past seen the army and the navy crippled by too much big business. The army and the navy has no vote. As yet the meddling camouflagists who want to divert attention from their own tricks and japeries have not deprived the doctors of the right of ballot. Absurd as

such a ruling might seem it is no more far-fetched than are some of the things that have come out of Washington.

As has been written so often in these columns, and as has been quoted through the ages from the days of early Egypt, and the even earlier growing Ganges, what we would keep, we must watch.

"Eternal vigilance is the price of liberty," thundered Patrick Henry in those genetic days of the nation.

Savants and economists insist that today we stand eye to eye with the heroes of 1776. That the new revolution has us in its grip and, that, like the young Buddha, we must suffer this second nativity.

If this be true, and the powers surrounding us admit that it is at least indicated, let us labor to the end that medicine of the future shall not be deformed from forceps wielded by any bureaucratic or socialistic hands. Such affliction is not a distant dream. It is an immediate menace.

Now, Happy New Year, doctor! But remember, that while the medical profession is the greatest of all groups in its disbursement of charity, it stands alone on its own heights as the actual demonstrator of the precept that "it is more blessed to give than to receive."

So, doctor, if you would follow the heartfelt wish of your editor, and have 1934 the best and the happiest of new years for you and for yours, hark to these three cardinal points of medical economics:

1. Tune in and tune up with your local medical organizations;
2. Use your vote to protect your citizenship, your profession and your manhood; and
3. Get out your vigilance and work that vigilance hard!

HAPPY NEW YEAR!

---

### OVERTRAINED DOCTORS MAY BE UNDERTRAINED PHYSICIANS.

Again is heard the plea for humanities rather than mechanics where medicine extends its provinces.

Contention is made with keen insight that the "too new-fashioned doctor" knows entirely too much about the end of fatal diseases and not enough about their beginnings.

This is true enough. In the rapid-fire pro-



duction of doctors by well-equipped medical schools the profession is getting a double-dose of doctors. But how about providing a few physicians?

There is an elegant disdain about a large proportion of our new acolytes of Aesculapius. This is less their fault than that of the system that breeds them. In all the bulk of research and discovery and theory and practice, somehow there has been much befogged the sense of human-ness. Truly enough "Fellowship in pain divides not smart, nor lightens aught, each man's peculiar load," but such fellowship undeniably bears the fruit of such knowledge, of such fellow discernment as turns the physician's skill into veritable medical magic such as only true pansophy can flaunt.

Not everything new is wrong, any more than everything old is right. And vice versa. The foundation stones of medical practice bore elements of strength and sagacity that it is well to remember.

The great modern drug houses with their accurate and convenient dispensing of standard formulae, removed from the physician his mortar and pestle.

Laboratory findings and institutional care remove from the physician that personal deftness of manipulation and perspective that the chef calls cunning when he makes a sauce, the sculptor art, when he pats his clay or wields his chisel with swift incisiveness.

It is sad but true, but the great pharmaceutical firms, with their alert medical and chemical staffs through their very efficiency debauch the doctor from his kingdom. It would be interesting if possible to secure accurate data upon what proportion of prescriptions are written that deal with fundamental drugs in themselves proportioned to a patient's needs or from those drugs in combination as sold in various patented pharmaceutical preparations, only too often far more expensive than analagous, simple and equally efficient preparations found in the pharmacopeia.

The great pharmaceutical companies render a rare service to the physician and to mankind by their exquisitely efficient auxiliary service to the practice of medicine. But at its best it can only be auxiliary service, and when physicians, through ignorance or what is worse, indolence, put the pharmaceutical service above their own

knowledge of therapeutics then indeed does the tail begin to wag the dog with a force that is folly worse confounded.

Many of the preparations sent out by the great pharmacoeutical houses are veritable Chesterfieldian combinations of curatives, such is their elegance and refinement of ingredient. By them, even the virile castor-oil becomes a pleasure to the palate. Naturally such things are expensive and "add-up" in the sum total of what it costs to make the sick well. Their advance over negligently prepared prescriptions written in the best of faith by an expert physician and only too often carelessly compounded by lax or inattentive not to say inefficient druggists, admits of no argument, much less criticism. But there are times when these highpriced pharmaceuticals could be dispensed with, and when the doctor who is a breath ahead of tomorrow in medical modes and manners, might work his own intelligence instead of handing the job over to the pharmaceutical house and enjoying the usage of proprietary formula. If the general public in the United States is the most patent medicine and nostrum minded public in the world, then in all fairness let it be admitted that the United States Medical profession has a keener yen for patented pharmaceuticals than physicians anywhere else in the world.

There are far too many young physicians who come out duly sheepskinned but handicapped by a lack of training in materia medica, without having had a course in applied therapeutics, without a course in prescription writing and with scant if any knowledge of the pharmacopeia.

With truth do many of the older practitioners accuse the neophytes of an inability, or would you call it a lesion in knowledge?—to increase weight in a patient by dietary modifications, nor how to increase an appetite nor how to discriminate in the usage of the milder laxatives nor how to modify diet, treatment, or anything else to the idiosyncrasies of the individual patient. He is this young man of high purpose and modern training, a cog himself in the handicaps of all products of the great machine age. He is becoming robotized and before long this blight will fall upon medicine itself.

Only too many full-time instructors, lacking the experience of private practice themselves, are absolutely unable to give to their students the ability to recognize the symptoms and signs

of incipient disease and the treatment of ordinary ailments. For these young men, in far too frequent instances, the curative lies in attendance upon the final stages of fatal diseases when brought to bed in hospitals or other institutions. There is no aptness and much less ability in following a disease in its progressive from start to finish.

No less an authority than Oliver T. Osborne, professor emeritus in the Yale University School of Medicine, has looked upon these conditions and found them ill. And in his arraignment of these defects through "*The Medical Mentor*," Dr. Osborne remarks with drastic emphasis that

"A patient cares little what you call his disease; he is interested only in what the physician is going to do to cure him, or, at least, to make him comfortable.

"This highest object of medicine, the object for which medical men are created, is now forgotten by the first-class medical schools. The patient pays the price of such neglect. Were it not for the great advances in the science of public health, which teaches how to prevent disease, and especially epidemics, the criticism of medical education today would be far more severe than it is.

"The number of persons who are ailing is increasing. This is due to the speed of our era. Men and women do not rest. Even children suffer from this speedy and restless age; too little sleep, too many side issues in school, too much competition, regulated exercises and games, noises, bright lights, dust, radios, etc., not only make children restless, but impair their health.

"Children have many infections, in spite of preventive measures, and are ailing in spite of 'sun-baths,' cod-liver oil, raw spinach, raw carrots, tomato juice, etc. Adults read the health journals, do their 'dailies,' count their calories, take vitamins, and go on diets, also to no avail.

"The medical schools of today are producing 'doctors,' but are they producing physicians? The recent M. D.s do not know how to evaluate the symptoms of incipient disease or to cure the symptoms of functional troubles.

"Students see in the hospitals only the terminal stages of chronic diseases, a few of the acute diseases, some unusual diseases, and the disturbances that may occur in post-operative cases. In the dispensaries they see an ever-

moving picture of ailments of all types, but rarely ascertain the termination of even the really ill cases.

"Further, few chairs of therapeutics are still extant. The treatment of disease is supposed to be taught at the bedside. Generally, such instruction is given very meager consideration by the instructor.

"The medical graduate knows how to give transfusions, antitoxins, vaccines, and subcutaneous injections of arsenic and iron; he knows how to give cathartics, morphine hypodermics in large doses. He knows about the administration of several hypnotics, how to manage shocked conditions and, perhaps, many of the emergencies; how to treat syphilis, typhoid fever, pneumonia, some of the contagious diseases, diabetes, Bright's disease, ulcer of the stomach, and many of the terminal conditions of the serious diseases.

"Some graduates do not know how to write an ordinary simple prescription. They order ready-prepared mixtures which have the doses stated on the bottles.

"Without a course in materia medica, without a course in applied therapeutics, without a course in prescription-writing, and without any knowledge of the pharmacopeia, the young doctor begins private practise with handicaps to which older physicians were not subjected.

"The recent graduate in medicine does not know how to increase an appetite. He knows very little of the milder laxatives. He knows little about modifying the diet to suit the idiosyncrasies of the private patient. He may know how to use some of the physical therapeutic measures, but he rarely knows the harm that many of these measures may cause, even the harm of too much 'sun-bathing.'"

---

#### LAY DICTATION HAMPER'S PROGRESS, LESSENS RESPECT IN THE EYES OF THE PUBLIC, AND INTERFERES WITH THE PROPER CARE OF THE SICK.

Physicians attempt today to practice medicine enmeshed by hampering laws dealing out such unscientific encumbrances as lay dictation of prescriptions with care of maternity; workman's compensation; medical publicity and education under the control of commissions or coun-



cils, or committee bureaucracy! Yet the sincere physician may wonder why Christian Science, chiropractors and the fifty-seven varieties or more of endless cults have taken advantage of this muddling, confusing and maligning of decent medical practice and are allowed to proceed practically without molestation.

Suggestion has been made that the doctors at large might as well go "whole hog" and turn medical science and medical progress over to "uplifters," and panacea promoters, and self-satisfied non-medical directors of medical destinies in general.

How much longer must this condition be tolerated? Serious consideration should be given as to where the commission power in government is thrusting the medical profession and the public generally. The narcotic situation affords an elucidative example of the tendency of the times. This shows up plainly the commission government that made possible such conditions as the present that is inexcusable, inimical and retroactive. This narcotic drug faux pas illustrates beautifully the dangers of commission government in lay existence and especially in crises that demand scientific handling. Arbitrary control of rules and regulations and interpretations by appointed officials is all wrong. Equally evil is arbitrary control of publicity by these same forces often putting over personal interpretations in the guise of legislative enactments and crushing out the honest and competent work and thought of many individual workers. The hour has struck when the profession and the public should unite in a campaign to annihilate current Prussianistic abuses, before these completely demolish self respect and self determination in an honored profession, hamper progress, lessen respect in the eyes of the public, and interfere with the proper care of the sick.

### IS GROUP-HOSPITALIZATION A HEALING AID OR A HAZARD?

Although the desire of the medical profession to pull out of the muck and mire the sadly beloughed hospital situation is as deep, and as tremendous, as the need of the hospitals, it would be quite beyond the question and utterly useless for the medical profession to extend aid of any nature that is likely to land the doctors themselves in the middle of socialistic quick-

sands. Such a state of affairs would be far worse for the hospitals than their present plight. After all, it is the hospitals that subsist upon the medical profession and not the medical profession upon the hospitals.

Hospital economics must receive re-adjustment, as must those of the medical profession. But this re-adjustment should not be made without due scrutiny of prospective and future conditions as well as for this immediate emergency relief.

For this reason, even if for no other, the expedient of "group-hospitalization" demands careful investigation before it is recommended by the medical profession. Whether the part-payment plan, and the group-payment plan for hospital service is a fundamental unit of medical economics or merely the working cube root of socialism in another guise must first be ascertained.

If a hospital or a doctor or a group of doctors begin to traffic in financial protection against the day of illness, then what that group has to offer is nothing more nor less than the insurance against material need in that hour, and, as such, savors of the commercial and smacks of the socialistic.

The evils of so-called public or general health insurance have been inveighed against so often in these editorial columns that it would seem unnecessary to say at this time that to the eye of the editor, the so-called "group-hospitalization" contracts to date appear to be a *scheme of health insurance and nothing else*.

That the American Hospital Association has been acting in good faith is granted. The trouble would seem to be that this group does not see all of the picture. In fact the findings upon a questionnaire submitted to the various states would seem to indicate that the majority of insurance commissioners themselves are of the opinion that the whole scheme as set forth lies in the class of "smells like health insurance, tastes like health insurance, must be health insurance."

No matter how sad the state of hospital economics, certainly the Good Samaritanism of the medical profession fails to call for giving the glad hand to any such menace as well-disguised public health insurance even for the sake of the rehabilitation of the cash box of the hospitals.

The joker in the whole deck is that during these dark days of depression when the medical profession has been getting the worst of it all along with unpaid bills, the hospital percentage of collections, and as it is, would have been enough, on the same ratio, as to have gladdened the cockles of the heart of any physician.

There is more or less truth in the contention that the average hospital has been so overbuilt, and so over-equipped that is likely to consider any fandango, even the overthrow of the nation, as just another gadget to hang above its wards and windows. Hospitals have lost perspective.

But not so political agencies, and medico-politics! They don't. State insurance commissioners cock a canny eye towards group hospitalization contracts and the relation of such contracts and service as a definite matter of *insurance business*.

Although some individual hospitals and a few hospital councils or associations have devised group-hospitalization plans from which commercial promoters have been excluded, in the main, group-hospitalization contracts are merely juicy bits in the jaws of prowling wolves of industry. Their schemes for revolutionizing the care of the sick would be ridiculous beyond belief were they not so terrible in the conditions that will be evoked eventually. Here is another hold that "big business" is getting on the science of medicine.

Almost to a man, promoters of such schemes make a *service contract claim*. What they are putting over is merely a new plan of insurance offering a definite service in case of illness or of accident. The structure of this idea is borrowed plainly from the insurance field. Especially is this true of such salencies as the spreading of the financial load—a familiar feature of all mutual insurance companies—and the vested control of the system, as well as all the procedure of organization—the basis of establishing monthly or annual rates; the exclusions as to benefits, the method of marketing the contracts, and also the definite lay element.

Concentrated scrutiny proves that the whole thing is merely another plan of insurance. "A rose by yet another name"—

A questionnaire submitted to the insurance commissioners of ten states found eight out of the ten fully convinced of this. Their attitude

was that from all legal and common sense stand-points contracts of group hospitalization are contracts of insurance. Two commissioners—Kentucky and Ohio to be exact—differ from this idea. Five states render the opinion that when group hospitalization contracts are made by any organization, corporation or individual that is NOT a hospital, *that such contracts come under the head of insurance contracts*; and that when such group hospitalization contracts are *made by the hospitals themselves—they do constitute contracts for service* and do not come within the jurisdiction of the insurance departments of such states. In still another state any such contract for service in excess of \$150—the statutory limitation—is held as an insurance contract. This ruling pertains chiefly to benevolent associations providing maximum membership disability on benefits of \$150. Still another state calls group hospitalization an insurance contract except when dispensed by religious, fraternal or benevolent associations.

In the results so far as obtainable already twenty-one state insurance commissioners definitely insist that group hospitalization contracts *are* insurance contracts, as against ten such officials whose opinions are of the opposite findings and four who evasively sit on the fence. There are also two insurance commissioners—Wyoming and District of Columbia—who hold no opinion and make no ruling.

Five states defer reply. The matter is of importance to the medical profession as well as to the hospitals since group hospitalization is considered seriously as a remedial factor in the ailing economics of both medicine and of the hospitalization system.

With a public educated into hospital-mindedness and with a national hospital system caught in the web of depression, with high overhead, and in many instances expensive furnishings and equipment of a nature most disproportionate for its designed purpose and expected results, and which by its very nature of service is unable to destroy or to beneficially reduce any of this load—various economic exits have been suggested, including group hospitalization, with its systems of installment or periodic payments for the benefits of low income groups. Dallas, Texas, was one of the instigators of such plans. Here is a rule that is expected to work both ways—i. e.,

for hospitals to secure from low income groups return from services that otherwise would have to be pure charity, by making payment for such service payable by installments, through the very system as such groups secure the greater portion of their economic luxuries, such as furnishings, radios and automobiles, and thus to help the hospitals, and to aid the individual by this same periodic or little-at-a-time payment.

Construing the nature of these contracts as to whether they are *insurance* against lack of care in illness or *service claims* for just such care, is the African in the woodpile. Of course during the depression hospitals have suffered sadly.

entire justification for existence—auxiliary to the healing arts. Desire to be high class hotels with therapy and surgery as a side issue has been the undoing of many an Hotel de Dieu—and contracts from such certainly smack of the precincts of the insurance policy. But hospitals like every other factor in the healing arts are mutative elements and as such must be considered and judged. The American Hospital Association has been racking its brains for some competent solution.

The table submitted by the A. M. A. shows how the states stand as to whether group hospitalization is service or insurance—i. e. a medical aid or a commercial crutch.

*Opinions of State Insurance Officials on Group Hospitalization Plans*

Group HospitalizationGroup Hospitalization

Contracts are Insur- Contracts are Insur-

ance Contracts

ance Contracts

with Certain

Qualifications

or Limitations

Group Hospitalization

Contracts are not

Insurance Contracts

Evasive or Indefinite

Opinion as to

Group Hospitali-

zation Contracts

No Ruling or

Opinion

Awaiting

Opinions

Alabama

Kansas

Arizona

Delaware

District of Columbia

Colorado

Arkansas

Maine

California

Nevada

Wyoming

Illinois

Florida

Missouri

Connecticut

New Hampshire

Louisiana

Georgia

Tennessee

Kentucky\*

New Jersey

South Carolina

Idaho\*

Texas

Massachusetts

Washington

Indiana

Virginia

Minnesota

Iowa\*

West Virginia

Montana

Maryland\*

North Carolina

Michigan

North Dakota

Mississippi

Ohio\*

Nebraska\*

New Mexico\*

New York\*

Oklahoma

Oregon

Pennsylvania\*

Rhode Island

South Dakota

Utah

Vermont

Wisconsin\*

\*Written report submitted.

Not only have their dividends from investments decreased, and in some instances the investments themselves been wiped out,—but hospitals are able no longer to secure cash by huge financial campaigns, or from wealthy philanthropists who are also among the missing. Yet hospitals must go on. Their economic scheme must be rehabilitated, whether by group hospitalization, reduced overhead or institutional mergers.

Whatever the answer, hospitals are adjuncts to the practice of medicine and therein lies their

A tentative plan for group hospitalization as practically approved by the American Hospital association has been summarized as

1. Those who wish to receive the benefits of the "group hospitalization plan" shall pay an annual fee ranging from \$6 to \$12.

2. The hospital agrees in return for this annual fee to furnish each subscriber such hospital service as he may require during any year covered by his fee. The hospital service is limited by the exclusion of certain diseases and to a def-



inite period of service, but embraces all services ordinarily rendered by a community hospital. The plan does not include payment of physicians, however.

As to this idea the opinion of the counsel for the Wisconsin State Hospital Association was summarized, for the convenience of the Commissioner of Insurance as follows:

1. Counsel calls our attention to the fact that there is no statutory definition of insurance in Wisconsin, but that section 209/11, Stats. of 1931, prohibits any "corporation, association, partnership, or individual" from engaging in "any business of insurance of any kind" without complying with the conditions and restrictions contained in the insurance statutes.

2. Counsel states further that in the absence of a statutory definition, general definitions are probably applicable in a limited degree, but that what is really controlling in determining whether a given scheme is "insurance" or whether those interested in it are engaged in the "business of insurance" is the ultimate purpose which it seeks to accomplish.

3. No longer is "insurance" or the "business of insurance" a mere "wager," "gamble," or "speculation." It has become a highly developed system for distributing "losses, damages, and liabilities among groups on a scientific actuarial basis."

4. Insurance has been variously defined as "a contract whereby one undertakes to indemnify another against loss, damage or liability arising from an unknown or contingent event"; or as an "agreement by which one party for a consideration promises to pay money or its equivalent, or to do an act valuable to the insured, upon the destruction, loss or injury of something in which the other party has an interest"; or, in Wisconsin (See: *Shakman vs. U. S. Credit System*, 92 Wisconsin 366, 374) as "a contract whereby one party agrees to wholly or partially indemnify another for the loss or damage which he may suffer from a specified peril."

5. Counsel carefully emphasizes that the "business of insurance" does not relate to the making of a single contract to secure a person against loss, but rather is founded upon the sharing of losses by a group which assumes common risks.

6. It is now universally recognized that "in-

surance contracts are so far matters of public interest that they may be reasonably regulated under the police power." See *State Ex Rel. Aetna Ins. Co. vs. Fowler*, 196, Wisconsin 451, 456, and *State Ex. Rel. U. S. F. & G. Co., vs. Smith* 94, Wis. 309, 320.

The Commissioner of Insurance of Wisconsin, when asked whether this "periodic payment plan for the purchase of hospital care" is a contract of insurance, and whether those engaged in it will be engaged in the "insurance business" within the meaning and intentment of the state law replied in part:

The State of Wisconsin  
Department of Insurance  
Aug. 22, 1933.

Mr. ———, Secretary Wisconsin Hospital Association, Madison, Wisconsin.

Dear Sir:—Re: The Periodic Payment Plan for the Purchase of Hospital Care.

This is to acknowledge receipt of your communication and pamphlet with reference to the above plan. In our opinion the above proposal comes within the purview of insurance, and could only be done by a duly licensed insurance company. In answer to your second question, we believe that an insurance company licensed to transact the business mentioned in section 201.04 (4), Disability Insurance, could issue such certificates as in our opinion, it is a form of health and accident insurance.

It is true that Wisconsin Statutes do not define insurance, but our Wisconsin courts have defined insurance especially in the case of "*Shakman vs. U. S. Credit System*" as "A contract whereby one party agrees to wholly or partially indemnify another for the loss or damage which he may suffer from a specified peril." In this plan, one party agrees to wholly or partially indemnify another for a loss or damage which he may suffer from a specified peril. Whether the agreement is made between the hospital and an individual, or a group of individuals does not take it out of the realm of insurance. A large amount of insurance written in this state is on the group plan but companies writing this insurance must necessarily comply with our insurance laws.

Section 209/11 prohibits any organization from transacting insurance business of any kind without first complying with our law. The or-

ganization would then have to be licensed to transact insurance as mentioned in subsection (4) of section 201.04. The solicitors obtaining subscriptions to this plan would have to comply with our statutes and obtain a solicitor's license. Section 209.05 defines an agent, but makes an exemption where it can be shown that he receives no commission.

On page 6 of the pamphlet, Effective Presentation to the Public, provision is made for payment of a commission, and the solicitor would therefore have to be licensed.

Under Extension of Benefits to Dependents on page 3, there appears to be a discrimination in that a discount is allowed to a dependent of a member when the association receives no contribution for this service. We are referring to the second alternative mentioned in this paragraph.

Exclusion of Certain Diseases. Your association does not intend to take care of the hospital charges of those members who receive such care through workmen's compensation benefits. This appears to be a discrimination among members in that one member for a stipulated contribution receives hospital care, while the other does not if the hospital care is paid for by a compensating company.

Under Finance, as outlined on pages 4 and 5, a member is not assured of hospitalization when he needs it. The association reserves the right to return to a member a specified amount. In case of wide-spread disaster, it is doubtful whether the amount returned to a member will reach anywhere near the amount of what he would have received in benefits, had the member been accepted in the hospital. A discrimination would result as to the benefit derived by members paying a similar sum for their protection.

We have attempted to point out the inequities in the plan and also to advise that in our opinion the plan falls within the confines of our insurance statutes.

Therein lies food for thought, and a warning for investigation.

---

### **SIGN AND RETURN THE A. M. A. DIRECTORY CARD**

The thirteenth edition of the A. M. A. Medical Directory is scheduled to appear about July, 1934. The last edition was issued in 1931. Re-

cently each physician in Illinois was furnished with a card upon which to record data pertaining to his professional status. There is a crying need for a new up-to-date directory; it is essential that data included in the directory be correct.

We are informed that many physicians received the cards sent by the A. M. A. but have not filled out and returned them. We urge every ethical physician in Illinois to promptly fill out and return the data card to the American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

If any medical reader failed to receive such card, he should write to the American Medical Association, 535 North Dearborn Street, Chicago, Illinois, calling attention to the fact.

The forthcoming 1934 Directory meets a vital need.

Instead of the customary two years, there is a period of three years between the last edition of the American Medical Directory and the new forthcoming 13th edition. At least 50% more corrections may therefore be expected. Indications are that the new directory will show at least 60,000 changes of address by physicians; 17,000 names of new physicians and 7,000 dropped on account of deaths. The same increased ratio of changes and corrections will naturally apply to all other data. This new edition will therefore be of extraordinary value to all users.

There was never a time when it was more important for every active physician to be a member of his County and State medical organizations and a Fellow of the American Medical Association.

---

### **DOCTORS DESIRING TO PRESENT PAPERS AT 1934 ANNUAL MEETING.**

Members of the Illinois State Medical Society desiring to present papers at the 1934 Annual Meeting to be held in Springfield, May 15, 16, 17, 1934, should get in touch with the proper section officers as soon as possible.

Owing to the large membership of the Society, it is desirable to place members on the program each year who have not appeared in recent years.

The number of speakers at the annual meeting for each section is limited; consequently it is



desired that all papers should be of interest to the members in general. Any member desiring to make a presentation at the annual meeting in any of the five scientific sections should write the Section Officers, giving the title of the paper, and an abstract of the same. If interesting case reports are desired to be given, tell briefly about the case of unusual interest, in making application for the place on the program.

It is the desire of all officers of the Sections to make the 1934 Annual Meeting program an outstanding one, and arrange it to the best advantage of all members. On Thursday morning, the last day of the meeting, it is planned to have a joint session of all five scientific sections, and present papers which will be of interest to all members regardless of their own special inclinations in practice.

Members desiring to make a presentation of either a paper or interesting case report, should get in touch with the proper Section Officers at an early date. The officers of each Section are herewith given.

#### *Section on Medicine*

R. F. Herndon, Chairman, Springfield.

Don C. Sutton, Secretary, 30 North Michigan Blvd., Chicago.

#### *Section on Surgery*

George W. Post, Chairman, 4010 West Madison Street, Chicago.

B. V. McClanahan, Secretary, Galesburg.

#### *Section on Eye, Ear, Nose and Throat*

George S. Duntley, Chairman, Macomb.

O. B. Nugent, Secretary, 231 West Washington Street, Chicago.

#### *Section on Public Health and Hygiene*

J. Howard Beard, Chairman, Urbana.

Lloyd Arnold, Secretary, 1817 West Polk Street, Chicago.

#### *Section on Radiology*

Robert F. Arens, Chairman, 2839 Ellis Avenue, Chicago.

F. Flynn, Secretary, Decatur.

### BREAKDOWN OF ENGLAND'S NATIONAL HEALTH INSURANCE SYSTEM.

The A. M. A. Regular London Correspondent—under date of August 21, 1933, wrote as follows relative to the breakdown of the National Health Insurance System. We quote:

"The socialist party in this country has one remedy for every ill—state expenditure. But

that this produces more evil than it remedies they will not see, even when the country is brought to the brink of ruin, as it was by the socialist government. The prolonged unemployment, largely the result of their policy, has caused in some cases a breakdown of the system of contributions for the financing of the national health insurance system. Their remedy was easy: the state made good the deficiency. But after the financial crisis, which led to the downfall of the socialists, the new government decided to bring to an end this arrangement, which kept in the insurance system persons no longer qualified by contributions. It was provided that all insured persons who had been continuously unemployed for a period of two years and nine months would at the end of 1933 cease to be entitled to medical benefit. The government estimated that the number of persons so affected would be 100,000, but the continuance of the depression may well cause that figure to be exceeded. The insurance committees are deeply concerned and at their annual meeting it was pointed out that 'these unfortunate people must in future rely upon the resources of public assistance.' But in the distressed areas the resources for this purpose are already strained to the uttermost. The committees therefore suggest that the government should find the money or that the insurance funds might meet the cost by a small adjustment of the central fund. On the other hand, the government desires 'to preserve the sanctity of the insurance principle.' It may be pointed out that in any case 'the insurance principle' is only partial, for normally a much greater part of the cost is provided by contributions from the government and the employers than from those who benefit by the system. As has been frequently pointed out, the so-called insurance system is more socialistic than anything else and, like all socialism, fails financially and makes constant demands on the state."

### ADVERTISING SOLICITORS WANTED

The ILLINOIS MEDICAL JOURNAL desires in Chicago and in each of the principal cities in the United States solicitors, preferably persons with medical advertising experience. No guaranteed salary. Compensation solely on commission basis.

ILLINOIS MEDICAL JOURNAL

6221 Kenmore Avenue, Chicago, Illinois

## MEDICAL ECONOMICS

### WHY NOT CONDUCT OUR BUSINESS IN A BUSINESS WAY?

With this number of the ILLINOIS MEDICAL JOURNAL we are starting a new year. At the close of the old year and beginning of the new, it is the usual custom with most successful business men to study the problems pertaining to their individual lines of work. If improvements can be made in the system of doing business, this is the time when they are usually started. If faulty systems have been in use they are discarded, or modified to make them more in keeping with the times.

The members of the Medical Profession are generally accused of being poor business men. Many of us keep good, fair, or "passing" records of our patients with case histories, record of our findings, and the treatment prescribed in each case. Many members of the Illinois State Medical Society have records of patients on file, dating more than twenty years, and can easily recall the treatment prescribed for "Willie's bronchitis in 1914, Mary's croup in 1917, or Grandfather's pneumonia in 1926."

How many physicians in Illinois keep complete, or even adequate records of their receipts and expenditures for the year which has just past, a record of all charity work done, the amount spent for the use of their automobile in doing their professional work, the amount on their books which is collectible, doubtful, and that which will never be paid?

How many of us actually know approximately what our overhead is for the past year, and perhaps for the few years preceding it?

The Committee on Medical Economics of the Illinois State Medical Society is anxious to accumulate reliable data along this line, from different parts of the state, as it will be of much value to us in our contacts with many groups interested in some of the phases of medical practice.

In our dealings with Relief Organizations, we are frequently asked for reliable information along this line, and unfortunately, have been unable to give even a fair estimate from actual figures available. We would like to suggest that members of our Society during the year 1934, keep records of these various expenditures, classifying same, keeping in mind especially,—

1. Rental paid during the year.
2. Cost of heat, light, gas, etc., in the office.
3. Cost of supplies purchased during the year, with an estimate of those actually used.
4. Cost of renewal of equipment, or additions to same.
5. An estimate of the cost of your present office equipment.
6. Actual automobile costs, with upkeep, especially that pertaining to your work.
7. Amount spent during the year in attending medical meetings, clinics, or for post graduate work.
8. Cash receipts for the year.
9. Amount placed on ledger.
10. Percentage of bills collected during the year, of the total amount of work actually done.
11. Amount of charity work done.
12. Gross income from the year's work.
13. Actual net cash income.

At an early date, the Committee on Medical Economics is going to send out questionnaires to a considerable number of physicians selected from different parts of Illinois; which will include general practitioners, both in the rural and urban communities, specialists in different branches of medical work, and also to the teaching members of the profession. Some state medical societies are making, or have made such a survey recently, and in two or three instances, the data has been accumulated at a considerable expense to the society.

It is our intention to procure a considerable amount of data during the coming year with a nominal expense, which will be principally postage. When these questionnaires are received, it is hoped that every physician receiving one, will give as complete information on the subject as possible, and there will be no embarrassment to anyone, as the name of the physician making the return will not appear on it.

From the vast amount of data along economic lines which has been accumulated during the past few years, it is estimated that the American physicians are actually doing more than one million dollars worth of work each day which is considered as charity work, and it is quite obvious that members of the Illinois State Medical Society are doing their share of this work.

The information received from the series of questionnaires which will be sent out during the coming months will be used in a comprehensive



report which our committee hopes to present next May at the Annual Meeting in Springfield. and with full cooperation on the part of the members of the Society, we are sure that it will be something well worth the effort, and minimum expense.

The Committee on Medical Economics wishes every member of the Illinois State Medical Society a Happy and more Prosperous New Year, and may we add, let us as individuals and members of this Society stand back of our President 100% in his efforts to overcome the monster, depression.

E. S. HAMILTON,

Chairman, Committee Medical Economics, Illinois State Medical Society.

---

## Correspondence

---

### EVERY FAMILY DOCTOR A PUBLIC HEALTH OFFICER

The problems of epidemic disease, nutrition and school health are always with us, and the family doctor who cares for the larger portion of these patients, needs frequent and repeated help along these subjects because of the kaleidoscopic changes in these diseases with seasonal and economic conditions. Discussions at medical meetings or in text-books or magazines are quite inadequate to a full appreciation of the diagnosis, complications and therapeutic management because these subjects are never considered until wide devastation has occurred.

Local health officers, supported by the professional staff of the State Department of Health, and members of the United States Health Service, whose entire energies are devoted to contagious, nutritional and deficiency diseases, can render inestimable help to the general practitioners in an educational way. Each local health officer is the senior authority on this class of diseases in his own district and the family doctor is his representative in the affected household. Local health officers would do well to hold regular meetings with the family doctors about them, inviting the group to round table discussions of diseases locally epidemic. In some instances a modified "ward walk" can be instituted if the family doctor will invite the group to visit his patient.

Such meetings can be held at stated intervals

and thus become a practitioner's study class in communicable diseases, a real post-graduate course as is presented at present nowhere outside of the contagious disease hospitals in large cities. Moreover these meetings will be far more profitable because they will have the local atmosphere and not take the doctor away from his work. The family doctor, joining such a group, will review under an able teacher the very disease he is combating at that time, he will acquaint himself with the most recent diagnostic procedures and methods of treatment, he will recognize obscure symptom complexes and be prepared immediately with the most potent therapy.

All of us with years of experience behind us, and an equal amount of time away from the feet of the learned, appreciate our shortcomings, but we are humanly weak and try to keep our failings from public notice and many recent discoveries like the Schick test, toxoid vaccination or the use of convalescent poliomyelitis serum are not familiar to us. Programs such as above outlined will make better doctors of us, help us to shorten the length of every illness, minimize its complications, morbidity and mortality, and thus proportionately reduce the cost of sickness, and, last but not least, it will develop a better understanding and a friendly cooperation between all concerned.

Public Policy Committee,  
Illinois State Medical Society.

---

### TENDENCY OF PASSING DIAGNOSIS UP TO LABORATORY

*To The Editor:* The December issue of the ILLINOIS MEDICAL JOURNAL publishes an editorial under the caption, "The Present Day Tendency of Passing the Question of Diagnosis Up to the Laboratories."

With due deference to editorial opinion and prerogative I would nevertheless enter a word or two of rebuttal on behalf of the medical specialists. As a regular reader of the JOURNAL and an admirer of the militant spirit that characterizes many of the editorials, I have been not unmindful of a tendency for several years to deprecate the work of the specialists. To array our general practitioners against the specialist is, to my way of thinking, like the mother seeking to glorify one of her sons at the expense of degrading the other. As a well known radio



character would say: "We are all brothers in that great fraternity."

So one could have more respect for the high minded and skilled general practitioner than the writer, but is it not a self-evident truth that the specialist in medicine and surgery is a natural product of evolution in a human desire to excel in some particular direction. There are numerous parallels to this, with the profession of teaching as an example. The modern medical laboratory is the answer to the need of physicians for information upon which to base an accurate diagnosis.

In your editorial you state: "Doctors of years gone by seemed to be able to meet all the therapeutics that might arise. Experience and observation says this was done with success." If you will pardon me, this seems a most extravagant statement. I am rather of the belief that the physicians of an earlier day knew only too well their limitations and handicaps. Is it not a logical conclusion that the specialists in medicine and surgery and the laboratories have naturally developed to meet those crying needs? The wise physician of today, like his predecessor, is also aware of his limitations. He realizes that he does not know it all. From my own observation over a considerable span of years, it is the doctor of broad knowledge and experience who seeks the aid and cooperation of the medical specialist and laboratory expert. He is a safe man. The general practitioner of the self-sufficient type and particularly the one who parades before his community as an all-around specialist is not always the personification of safety.

Furthermore, are we not just a little further along the road in our profession than the doctors of fifty years ago, and will not the need of new aids in diagnosis and treatment to meet changing conditions lead to other changes in the surface aspect of our profession? At heart, it will doubtless remain much the same as in the past. There always will be doctors, whether general practitioners, specialists or laboratory technicians, who will honestly, honorably and unselfishly devote themselves to the discovery, diagnosis and alleviation of disease.

It is the general tenor of your editorial that I object to. There is too much disintegration in the ranks of our profession now. There is a lowering of our general resistance, and we are attacked in vulnerable spots from many sources.

We need cohesiveness above all things if we would survive, and to this end should strive to live together peacefully and harmoniously, general practitioner, specialist and laboratory expert, and thus repel the common enemy on a broader and stronger front.

Charles B. Younger.

---

#### CHARGING STUDENTS MEMBERS OF PHYSICIANS FAMILIES FOR MEDICAL SERVICES

WHEREAS: Occasional misunderstandings have arisen in the minds of physicians over the state as to the propriety of students of the University of Illinois who are members of Physicians families being charged for medical and surgical services, and,

WHEREAS: Such misunderstandings are invariably due to a lack of knowledge of conditions as they exist in this community, therefore be it

*Resolved:* That we, the members of the Champaign County Medical Society, do agree to charge students of the University of Illinois who are relatives of physicians on the same basis as charges are made to other students.

The above is a copy of a Resolution adopted by the Champaign County Medical Society March 11, 1926.

Glen R. Ingram, M. D.,

Secretary,

Champaign County Medical Society.

---

#### THE GENERAL PRACTITIONER IS THE SHEET ANCHOR OF THE AMERICAN PEOPLE IN THEIR TIME OF STRESS

No one knows the trials and tribulations of the general practitioner better than a general practitioner. No one knows better than his fellow practitioners how from day to day he studies the ills of his patients with the skill and knowledge gleaned from years of experience and not from books. No one knows, better than he, that in the treatment of illnesses the human, common sense side of medicine ranks as high, and probably higher, than the ultrascientific side. No specialist can practice medicine with the same altruism and humanitarianism.

The unfortunate side of the practice of medicine from the standpoint of general practitioner is that he (the general practitioner) is also an ordinary human. To maintain life, he is ob-

liged to eat; to make his calls, he is obliged to use an automobile, and to maintain that automobile he must use gasoline, oil, tires and make repairs. He is obliged to wear clothes; he must live in a house and therefore heat, light and a telephone are essentials.

He may be the greatest of humanitarians and his motives the most altruistic but when his telephone bill is due or his light bill is due or he fills the tank of his car with gasoline, to the telephone company, the light company or the oil company he is just another customer. He pays just as everyone else pays regardless of his idealism. He may be preached to by full time paid professors or by those far removed from the problems of the actual practice of medicine about ideals when the practical problem of the time is the stretching of one dollar until it is threadbare.

The general practitioner takes a just pride in his profession and a pride in carrying a message of cheer to those who are in distress. With his belt pulled tight and his chin up, he carries on. He faces the unfair competition of quacks, dispensaries, clinics and hospitals, newspaper notices telling of the uncanny skill of a chosen few and the specialistic blah in the lay magazines.

Nevertheless the general practitioner serves his patients, in good times and bad, and like the Rock of Gibraltar stands firm and steadfast. He is the sheet anchor of the American people in their time of stress.

Thomas P. Foley,

Chicago Medical Society Bulletin.

Chicago Medical Society Bulletin, Nov. 25, 1933.

#### THE SPIRIT FOR THE NEW YEAR 1934

MRS. WILLIAM R. CUBBINS

Public Relations Chairman of the Woman's Auxiliary to the Illinois State Medical Society

Our National President, Mrs. James Blake, in her first letter to the Auxiliaries in the October *A. M. A. Bulletin* expresses clearly the duties of a public relations committee and its activities: "I am vitally interested in the public relations part of your program work as County Auxiliaries. I feel your program is the reason for your existence; that it should be the lure to membership. To be a live wire in your county and state, you must have a program that is definite in purpose, that touches live issues, that invites intelligent discussion and that is shared with the public through properly directed publicity. By means of its various contacts,

an auxiliary becomes a vitalizing influence in any community."

Is this not a challenge to the members of our auxiliaries and to all physicians' wives to have a very definite part in the World's work today? Communities, clubs and individuals are health conscious and are asking for the latest discussions on health problems. Who should be better qualified to participate in such programs than the carefully directed thinking wife of a fine physician? She is thus privileged to be a part of the important public service of the great dignified medical profession, an "unselfish profession that seeks to do away with itself by lessening disease and increasing health." When the work of the Auxiliary and the vital need for discussion of medical topics in this worried world are really understood, no physician or his wife can afford not to be a part of a program of properly directed health education.

Women's clubs have led the way in fine health programs. Many of us have shared in directing these activities which have included the work of the visiting nurses, pure milk and pure food, prevention of blindness, tuberculosis, cancer control and other important measures. Now that we, the wives of medical men, are organized we are in a strategic position and should seek all such contacts for better public relations. The Woman's Auxiliary to the Illinois State Medical Society although organized only a few years, by pioneering work has laid a firm foundation.

The Educational Committee of the Illinois State Medical Society is the service bureau for our publicity, furnishing material, radio programs, health talks, all of which are for the public. The activities of the Committee are most carefully directed and keep abreast with the advances in science.

Your chairman early this fall received her instructions from the National Auxiliary as follows: "Continued effort for close cooperation among auxiliary members and an enlarged public contact should be made, placing the purpose and our aims before other organizations. This to be done by public lectures, etc."

Our aim is to assist in the advancement of the prevention of disease, to secure better legislation indicated in the pursuance of these ends, and to advance all professional interests.

On September 20, 1933, your chairman called a conference tea at her home to which were invited State Officers and Chicago members of the Board, the President and Public Relations Chairmen of county auxiliaries and the State President. The meeting was called for confirmation of a program of the chairmen of organization and public relations of the State and to arrange for a large public meeting on October 11 at the Illinois Host House, Century of Progress. An intensive publicity campaign was carried on. Hundreds of letters announcing the speaker, time, place and subject were sent to all auxiliaries in the state, to federated clubs, benevolent and public health organizations, men's medical societies. The subject "Mental Health in the Home" was chosen because of the unrest in the changing world of today which affects the members in



our homes and our future citizens. Dr. Charles F. Read, an authority on mental health, was the speaker and his interesting lecture was published in the November issue of the *ILLINOIS MEDICAL JOURNAL*. The time was selected because of the opening of the year's work and our own Illinois Host House at A Century of Progress chosen as the place because it was part of a history making epoch. Many replies pledging support were received. One organization wrote: "The notice of your October 11 meeting has been received. An announcement concerning it will be made to our nurses and is being placed on our bulletin boards." Our contacts were enlarged as shown by similar replies from many other organizations.

In September, your chairman spoke before the organization of Club Presidents of Cook County announcing this meeting and placing in the hands of each member a notice of the Speakers Bureau of the Educational Committee of the State Medical Society. The Committee offered speakers on subjects of timely interest such as, "Health and Leisure Time," "Growing Old Gracefully," "Mental Health," "Health and the Depression," "The Hopeful Side of the Cancer Problem." Five hundred notices of Doctor Read's lecture were given out at the Club Presidents Conference, three thousand were printed and distributed through the exhibitors of A Century of Progress, 2400 went to prominent women of the State from the Illinois Host House in its official bulletin. The Woman's Auxiliary to the Chicago Medical Society sent 400 postal cards to medical homes. About 6500 individual notices were sent out for this meeting and many thousands of homes were reached through the *Illinois* and *American Medical Journals*. This indicates the wide variety of publicity reaching many types of people.

The day of the meeting was ideal, beautiful Indian summer and while the audience was not large it was representative as was the attendance at the luncheon which followed in the Trustees Lounge in the Hall of Science. We were honored by having our State President and other prominent guests. Congratulatory letters were received from many distinguished men who were unable to attend because of the American College of Surgeons which was then in session in Chicago. Through a member we were able to show the work of the Janiel Shop by modeling dresses made by the handicapped of the Spaulding School for Crippled Children. Dancing children at the style show at the Casino served as models.

The officers, chairmen and members of the Chicago Auxiliary gave their wholehearted cooperation in sponsoring this entire program.

A plan for a competitive school essay contest on public health subjects was suggested for Chicago, but on account of prizes offered, was rejected. This is now in the hands of the superintendent of schools for his further consideration. Such a contest would seem feasible for the work of the auxiliaries throughout the state where the school problem is not so vast as in Chicago. A poster display on health problems is now

being considered which may be far reaching in its import.

Your chairman is only too happy to receive suggestions for new work that will broaden our activities and help secure the goal for which we strive. She is most willing to cooperate with county and state auxiliaries in putting on a health program as a part of public relations. Our service bureau, the Educational Committee, is ready to assist us at all times with its package library service, articles for newspaper release, radio talks and public health lectures by competent medical men. Treatment is not discussed. Physicians should be the leaders and the authority for health measures in their own communities. Our goal as an auxiliary can be reached because we as auxiliaries have constructive policies. We need the united effort of all doctors' wives to help advance health education. We will be building up an intelligent laity with whom the medical profession can cooperate. "It is in the dew of little things the heart finds its morning and is refreshed." A Happy New Year and a helpful one for all.

#### WOMAN'S AUXILIARY

1932-33 ANNUAL REPORTS GIVEN AT PEORIA

Mrs. A. H. Brumback, *President*

*Cook County.* The first meeting of the Council of the Cook County Auxiliary for the season of 1932-33 was held on June 1, 1932, in the Medical and Dental Arts Building, at which the new officers and committees attended in almost their entirety. Another meeting was held on September 7 when a general outline of work was formed and committees appointed by the different chairmen. On October 5 the general work of the Council was transacted and during luncheon Miss Audrey Hayden gave a very fine talk on the prevention of blindness in the new-born. At the afternoon meeting of the Auxiliary, Doctor H. L. Kretschmer gave an illustrated lecture on the "Interpretation of Pyelogram," which was very instructive and interesting.

November 2 a morning session of the Council was held for the regular transaction of business. In the evening a Scientific Crime Detection program was given by the Crime Detection Laboratory Staff at Lincoln Hall, Northwestern University, with Doctor Calvin Goddard as chairman. The attendance numbered between four and five hundred. A pleasant and profitable evening was spent by all.

December 7 a meeting of the Council was held, followed by a card party in the afternoon.

On February 1, 1933, the morning session of the Council was followed by luncheon and a lecture on "Mental Health" by Dr. Alex S. Hershfield, former State Alienist. Following the March 1 Council meeting a program was given by Doctor Frederick B. Moorehead, President of the North Side Branch of the Chicago Medical Society, who gave an illustrated lecture on "Plastic Surgery." Dr. J. F. Jaros gave a lecture on "Health and Personality" at the afternoon program following the Council meeting on April 5.

The Annual Meeting was held on May 24 with the

Council in session during the morning and the afternoon devoted to election of officers for the ensuing year, followed by a musical program, playette and tea for the invited guests.

In addition to the above regular programs there were a number of activities which proved most interesting and beneficial to the Auxiliary. On August 15, 1932, Mrs. Packard, Chairman of Ways and Means Committee conducted a fifty-two mile trip through the underground tunnel railway system which was enjoyed by nineteen members. On March 1, 1933, Doctor Josephine Lohr gave a very descriptive talk on the "Enchanted Island" at the Century of Progress, and on March 25 eighty-two members and friends were conducted by Mrs. Meyer Solomon on a trip through the grounds of A Century of Progress, ending with luncheon at the Old Heidelberg Inn. Past Presidents were guests of the Auxiliary on April 5, each one giving a three minute talk on her hopes and ambitions on assuming office. On April 11, your President gave a radio talk over WGN on the "Old Time Doctor" at the invitation of the Educational Committee of the Illinois State Medical Society.

Mrs. G. B. Dudley, *President*

*Coles-Cumberland County.* The fifteen paid members of the Auxiliary have held five meetings during the year beginning with January, 1932, when the group met at the U. S. Grant Hotel in Mattoon. Election of officers was held at this time but there was insufficient time for the program previously arranged. In March there was a combination supper and meeting held at the home of Mrs. G. B. Dudley in Charleston with an informal discussion on Communism in our schools and country. The May meeting was held with Mrs. Donovan at Windsor. Articles from magazines pertaining to medical questions and the advertising done by Montgomery Ward's for urine analysis were discussed. The picnic planned for July failed to materialize but meetings were held in September and November at the homes of Mrs. Bigler in Neoga and Mrs. Shaffer at Charleston. The papers furnished by the State Auxiliary were read at these meetings.

Last September we financed five subscriptions to *Hygeia*, sending them to Parent Teacher Associations in the county. The Auxiliary also sent flowers and an expression of sympathy to our late State President, Mrs. T. O. Freeman, upon the death of her husband last October. During the last two years we have only paid \$1.00 dues. It takes all of this to pay the State and National dues yet we have had enough in reserve to meet all other expenses. We have voted to have our fiscal year end March 1, in accordance with a suggestion from our State President, Mrs. E. W. Mueller.

Mrs. E. S. Allen, *President*

*Douglas County.* The Auxiliary has held regular meetings at which the work has been of both social and educational character. Since good fellowship and friendship have been an important part of the organization, emphasis has been placed on social activities. We are now prepared to do more in an educational way,

perhaps studying the laws of the country as they relate to health and sanitation. Programs have consisted of book reviews, material prepared by the Program Committee of the State Auxiliary, and discussions of articles published in periodicals. *Hygeia* was placed in the public library. Dr. R. K. Packard of Chicago presented an interesting discussion of "Medical Economics" at the last regular meeting. Social activities have consisted of two dinners followed with bridge at which members of the Douglas County Medical Society were guests. The first was held at the home of Mrs. George H. Fuller at Tuscola and the second at the home of Mrs. R. C. Gillogly at Newman.

The present membership is fifteen, two new members having been accepted during the year. There are only four other women in the county eligible to membership. Dues are \$1.50 annually.

Mrs. Imas Rice, *President*

*Kane County.* There are approximately seventy doctors' wives in the county eligible to membership in the Auxiliary. We have twenty-eight members and hold six meetings a year, four of which are educational and two social in nature. Members of the Kane County Medical Society and the Auxiliary meet for dinner after which the two organizations hold separate sessions. One meeting of the Auxiliary was devoted to a program on the Prevention of Blindness, the speaker being Miss Audrey Campbell of the Illinois Society for the Prevention of Blindness. At Miss Campbell's suggestion and with the consent of the advisory board of the county medical society, letters were sent to our senator asking him to vote favorably on the bill for the prevention of blindness in the new-born and to Governor Horner urging him to sign the bill after its passage.

The Press and Publicity Committee sends reports and announcements of Auxiliary activities to the Aurora and Elgin newspapers which reach the majority of Kane County residents. Sample copies of *Hygeia* were placed in various schools and in the Aurora Y. M. C. A. Auxiliary dues were reduced this year from \$2.00 to \$1.50 per year. The spirit of good fellowship created through the social contact afforded by the joint meetings of physicians and their wives is much enjoyed.

Mrs. E. G. Beatty, *President*

*Livingston County.* The Auxiliary was organized December 6, 1932, and has a membership of fourteen. Thirty-one women in the county are eligible to membership. Meetings are held four times a year with an average attendance of ten. The business sessions are preceded by luncheon. Our State President, Mrs. E. W. Mueller, and the President-Elect, Mrs. Solomon Jones, have addressed us.

The Auxiliary has cooperated with other organizations in sponsoring examinations of pre-school children by the family physician as opposed to group examinations. *Hygeia* has been placed in the High School library, books have been donated to the Livingston County Tuberculosis Sanatorium, and magazines have been given to the Woman's Reformatory at Dwight.



We secured Dr. Cyril Hale of Chicago as speaker for the Welfare Department of the Pontiac Woman's Club and for the Chatsworth Woman's Club. All meetings have been reported to the local press and clippings have been sent to the State Chairman of Publicity.

Mrs. W. N. Hamilton, *President*

*Marion County.* Organized in December, 1932, the Auxiliary has nineteen members. Twenty-four women are eligible to membership. Meetings are held every two months at which the attendance has averaged fifteen members. Emphasis has been placed this year upon getting properly organized and becoming acquainted. The interest of members is good and the attitude of the Marion County Medical Society is friendly and cooperative.

Our State President, Mrs. E. W. Mueller, was present at one meeting and Dr. and Mrs. John R. Neal were guests at an earlier meeting.

Mrs. Gerald M. Cline, *President*

*McLean County.* Last year we started with only five members. By meeting at the different homes, having supper and a social evening, followed by book reviews and items read from the ILLINOIS MEDICAL JOURNAL, and by each member contributing twenty-five cents, our membership and bank account have been increased. We now have twenty-five members. We have done some philanthropic work and see prospects for a much larger membership. Meetings are held the second Tuesday in the month.

Mrs. W. D. Chapman, *President*

*Rock Island County.* Meetings have been held once a month and have shown an increase in attendance during the past year. The Auxiliary meets at the same place and time as the County Medical Society. The September meeting was a dinner meeting held jointly with the County Medical Society, the program being arranged by a committee representing both organizations. The President of the Auxiliary was invited to give a short talk on the work of the State Auxiliary and told something of the history and growth of the National organization. A travelogue entitled "Maya Medicine" was given by Dr. and Mrs. A. E. Williams, members of the local groups who had made an extensive tour of Central America during the summer. Musical numbers and readings completed an enjoyable evening.

The Auxiliary was invited by the County Medical Society to participate in the placing of a marker for the grave of Dr. John Gale, the first surgeon appointed to serve at the Rock Island Arsenal Post, who is buried on the Island. A fitting program featured talks by Mr. John Hauberg, an authority in Illinois history, and Dr. Irving S. Cutter, dean of Northwestern University Medical School and permanent historian of the Illinois State Medical Society.

We have an efficient program committee. Much of the program material furnished by the state program committee has been used. One of our meetings was given over to the report of the Committee on the Costs of Medical Care. Another meeting featured a

splendid book review of "The Magnificent Obsession" by Lloyd Douglas. At the May meeting we listened with the County Medical Society to Colonel Goddard of Northwestern University.

Our legislative activities have been confined to H. B. 161 and we found our senator and representatives courteous and favorable to this particular legislation. Several of our members serve on executive boards of lay organizations. We feel that through these members we can keep in touch with any proposed legislation or public health activities being sponsored by lay groups. Speakers for health programs of lay organizations have been secured by auxiliary members from the Speakers' Bureau of the Illinois State Medical Society. *Hygeia* has been placed in the four nurses' training schools of the county. The *Hygeia* chairman made a survey of all libraries in the county as a result of which three new subscribers were added.

Our membership is not as large as we would wish, for it includes only about one-third of those eligible in the county. However, we feel that the auxiliary has promoted a better feeling among doctors' families, increased attendance at County Society meetings, and made us all more conscious of the economic problems that confront the medical profession.

Mrs. Elmer E. Hagler, *President*

*Sangamon County.* The forty-two members of the Auxiliary have held seven meetings, regularly on the second Friday of each month. The attendance has been good and all have expressed satisfaction with the year's activities and can be counted upon to carry on. The greatest difficulty the organization has to meet is making a place among the other organized groups to which our women belong. Our Auxiliary, therefore, holds most interest for the younger women who are not affiliated with many of the older organizations. For that reason, emphasis has been placed on the social phase this year. Meetings have been held in the homes of members with music as a feature of the program and closing with a social hour and afternoon tea. We have had, however, addresses by outstanding authorities on subjects pertaining to the medical profession. In March the Auxiliary took an active part in urging the passage of the bill for the prevention of blindness in infants (Bill 161), both by petition to the Senate and by going in a body to hear the debate. In December the members accepted the invitation of the Sisters of St. John's Hospital to be hostesses at a Silver Tea for the benefit of the graduates of the school for nurses.

Our work has been handicapped by the closing of the bank in which our funds are deposited. However, we gave a generous contribution to the community fund for associated charities. Best of all, we have come to know each other better, to form ties of friendship, and to realize the value of cooperation in furthering the welfare of the community and of the medical profession.

Mrs. J. W. Rendleman, *President*

*St. Clair County.* The membership of the Auxiliary is fifty, two new members having recently been accepted. Our meetings are held the first Thursday of

each month, October to June inclusive, at the same time and place as the meetings of the St. Clair County Medical Society. The two organizations hold their meetings in different rooms at St. Mary's Hospital. At the close of our business session we are joined by the physicians and interns for refreshments and a social hour. We have had three open meetings with health educational programs to which various civic groups and clubs were invited, refreshments being served also at these meetings. We found that the serving of light refreshments aided in the promotion of good fellowship. Miss Audrey Hayden, Secretary of the Illinois Society for the Prevention of Blindness, addressed one of our meetings when Parent-Teacher and club groups were invited to be present. We took an active interest in the passage of the bill for the prevention of blindness in infants which was later signed by the Governor.

We have had several book reviews, readings of papers sent to us by the Program Committee of the State Auxiliary, and at each meeting have had a resume of *Hygeia*. Good music has been furnished at all meetings. We bought tuberculosis seals and investigated a report of a physician's wife supposed to be in destitute circumstances. All meetings are reported in our local bulletin as well as in the daily press. Our relationship with the County Medical Society is one of cooperation and cordiality; attendance at meetings of the Medical Society has increased; prejudice against the formation of an Auxiliary has been overcome; and a feeling of good fellowship has been fostered.

Mrs. Benson M. Jewell, *President*

*Vermillion County.* We feel that the year 1932-33 has been successful for the Auxiliary. We have a paid membership of fifty as compared with fifty-six of the previous year. This represents a loss of ten members, some of whom had been unable to attend a meeting during their membership, and a gain of four new members. A new feature introduced at our meetings by the program chairman, Mrs. E. G. McGavran, was the indoor picnic. Two meetings of this type were held, followed by a business meeting and an entertaining program or games. Other meetings of the year were dinner meetings followed by educational programs. Speakers heard during the year were Dr. George B. Lake, Editor of *Clinical Medicine and Surgery*, whose subject was "Mental Hygiene"; Dr. A. R. Brandenberger, County Physician, who spoke of the charity work in the county; Miss Hahn, who told of the work of the County Dispensary; Dr. Florence Gebhart of the University of Illinois whose subject was "Sex Education from Infancy to Maturity"; and Miss Audrey Hayden, Secretary of the Illinois Society for the Prevention of Blindness, who explained House Bill 161. Among members who contributed toward the programs were Mrs. O. J. Michael who read a paper supplied by the State Program Committee on the subject "Romance of Anesthesia," and Mrs. O. H. Crist who reviewed "Re-forging America" by Stoddard.

The *Hygeia* Committee, Mrs. Wheatley, chairman, through correspondence with some one in every village

and town in the county, was able to place ten subscriptions to the magazine in libraries and school reading rooms. Mrs. F. M. Mason, Legislative Chairman, aroused interest in her field. At the request of the County Medical Society we distributed and explained to voters the use of sample ballots for retaining a fund raised by taxation for a tuberculosis hospital. Our Constitution was amended to close our fiscal year March 1 instead of December 1. This conforms to the Constitution of the Auxiliary to the Illinois State Medical Society.

Mrs. L. J. Wilhelmi, *President*

*Will-Grundy County.* During this past year, the Will-Grundy County Auxiliary to the Medical Society has concentrated its energies upon an educational program. This was developed along two lines. First, at the invitation of our husbands, we met with them for a luncheon and program each month. The doctors of these two counties hold weekly meetings, and so felt that they could devote one meeting each month to some of the more general and less technical types of medical lectures. Thus we shared with them many splendid programs such as Dr. Lena K. Sadler's discussion of "Medical Leadership in Lay Groups," and Dr. R. K. Packard's presentation of the medical man's ideas on the "High Cost of Medical Care."

The other phase of our activities was to accustom lay groups, such as the various Parent-Teacher Associations, to come to us for their medical programs. This year we furnished four such programs. One was a talk on "Child Hygiene" by one of our pediatricians. The other three were on the "Prevention of Blindness," and especially was stressed the prevention of blindness in the new-born.

## EDUCATIONAL COMMITTEE

*November and December, 1933*

Jean McArthur, *Secretary*

## SPEAKERS' BUREAU:

75—Speaking appointments were scheduled by the Committee before the following organizations: Women's Auxiliaries, Women's Clubs, Century of Progress, Junior Colleges, Y. M. C. A., Nurses, Parent Teacher Associations, High Schools, Teachers' College, American Legion, Parent Education Groups, Universities, Business and Professional Women's Clubs, Ministerial Association, Republican Club, Kiwanis, Young Mothers' Clubs, Rotary, Pre-Medical Pre-Dental Clubs.

The following doctors assisted in these programs: W. A. Evans, F. P. Hammond, Clifford Grulee, H. C. Moss, C. J. Barborka, O. B. Nugent, W. D. McNally, D. O. Thompson, Sanford Gifford, R. C. Gamble, Harry S. Gradle, R. K. Packard, E. S. Hall, Kenneth K. Jones, Florence P. Gebhart, John F. Carey, George M. Lucas, G. K. Fenn, A. F. Kaeser, Aaron Arkin, Charles H. Miller, W. W. Bauer, Homer Humiston, F. E. Senear, Roger Hubbard, W. L. Crawford, James



T. Gregory, J. Howard Beard, Carroll Birch, Leon Unger, H. W. Elghammer, D. D. Monroe, Mabel Howe Otis, W. A. Newman Dorland, Esther Smucker, E. L. Cornell, Harry R. Hoffman, W. C. Danforth, Bertha VanHoozen, J. Roscoe Harry, Sumner N. Miller, K. M. Nelson, R. H. McPherson, Bert I. Beverly, A. C. Ivy, L. A. Crandall, J. H. Roth, M. L. Blatt, G. C. Otrich, Frank B. Kirby.

#### PRESS SERVICE:

1,221—Releases to Illinois Newspapers:

726—Regular service.

42—Monthly service.

61—Releases on Scarlet Fever to newspapers of Adams, Coles, Champaign, Fayette, Kankakee, McLean, Peoria, Tazewell counties.

36—Releases on Chickenpox to newspapers of Clark, DeKalb, Logan, Stephenson, Williamson counties, and to the cities Aurora, Berwyn, Cicero, Lincoln and Rock Island.

5—Releases on Pneumonia to the cities, Streator, Rock Island, East St. Louis.

2—Releases on Pasteurized Milk to Mattoon.

59—Releases announcing meeting DeWitt County Medical Society.

90—Releases re LaSalle County Medical Society Meeting.

54—Releases re Perry County Medical Society Meeting.

53—Releases re meeting Winnebago County Medical Society.

33—Announcements of Tuberculosis Clinic sponsored by the Jackson County Medical Society.

42—Notices of meetings of Branches of the Chicago Medical Society.

3—Notices to Chamber of Commerce of Chicago Medical Society.

15—Releases about meetings of Chicago Medical Society.

12—Educational articles were written and approved on:

"Saving Ourselves from Colds."

Common Foot Disorders.

Oysters Are in Season.

Thyroid Dysfunction.

Cancer of the Skin.

American Dietary Habits.

Scoliosis.

Rational Use of the X-Ray.

The Kidneys.

Cancer of the Mouth.

Obesity.

An Ancient Scourge and a Present Evil.

#### MISCELLANEOUS SERVICE:

245—Card notices sent to physicians announcing Bureau County Medical Society November 7th meeting.

372—Letters sent to physicians re LaSalle County Medical Society November 23rd meeting.

219—Invitations sent for Bureau County Medical Society, December 1.

187—Notices sent to physicians announcing December 7th meeting of Perry County Medical Society.

54—Letters sent to physicians announcing December 28th meeting of Hamilton-Jefferson County Medical Society.

159—Notices sent to physicians re January 4th meeting Perry County Medical Society.

335—Cards mimeographed for Woman's Auxiliary, Chicago Medical Society, announcing Annual Card Party, December 6.

270—Announcements mimeographed for January 3rd meeting of the Woman's Auxiliary, Chicago Medical Society.

148—Letters mimeographed for Organization Chairman of the Woman's Auxiliary of the Illinois State Medical Society.

247—Announcements mimeographed and sent to women's clubs announcing a health program given by Illinois Federation of Women's Clubs.

53—Announcements mimeographed and sent to club women announcing tour of Laboratories of medical school.

95—Letters sent to secretaries of county medical societies announcing services of the Educational and Scientific Service Committees.

25—Package libraries compiled and sent to physicians.

8—Moving picture films on health subjects secured for groups.

Secretary attended meetings of the Illinois Society for Prevention of Blindness, Health Officers Conference at Springfield, Medical Commission of American Legion meeting at Bloomington, Illinois Federation of Women's Clubs in Chicago, Child Hygiene Advisory Committee meeting Chicago.

#### RADIO:

40—Radio programs given over stations WGN, WAAF, WJJD.

Charles N. Pease—Scoliosis.

Emil Hauser—Common Foot Disorders.

C. F. Yerger—The Eye and General Disease.

N. J. Heckel—Kidney Trouble.

Tell Nelson—Bronchial Asthma.

Harry A. Singer—Cancer of the Stomach.

A. S. Hershfield—Mental Habits.

M. Herbert Barker—Nephritis.

C. J. Barborka—American Dietary Habits.

Paul H. Wezeman—Tuberculosis.

J. P. Greenhill—Superstitions and Misconceptions About Childbirth.

M. M. Kunde—Endocrine Influence on the Body.

H. E. Kimble—Rational Use of the X-Ray.

E. C. Olson—Obesity.

Donald C. Keyes—Crippled Children and Their Care.

G. Henry Mundt—Defective Vision in Children. Walter R. Fallon—Lobar Pneumonia.

M. T. Strikol—Injuries in Auto Accidents.

H. K. Scatliff—Good Parents and Bad Children.

Joseph L. Meyer—False Modesty and False Pride.

Theodore Shapira—Why the Eyes Water.  
 Max S. Wien—Acne.  
 Julius Brams—Cancer is Curable.  
 Peter A. Nelson—Cancer of the Mouth.  
 A. A. Herschfield—Dementia Praecox.  
 Wilbur E. Keese—Amebic Dysentery.  
 John A. Cousins—Headaches.  
 Cyril Hale—What is Insanity?  
 John A. Ritze—Appendicitis.  
 H. F. Mars—The Diseased Gall Bladder.  
 E. E. Dillon—Eyes in Adult Life.  
 C. N. Pease—Congenital Deformities.  
 G. L. Kaufman—The Healthy Child.  
 G. Henry Mundt—Eye and Ear Affections in Childhood.  
 R. O. Ritter—The Crippled Child.  
 Philip Lewin—Infantile Paralysis.  
 R. R. Ferguson—Building Health in the Child.  
 W. F. Moncrieff—Convergent Squint in Children.  
 C. J. Drueck—Some Troubles in Childhood.

#### SCIENTIFIC SERVICE COMMITTEE:

25—Speakers scheduled to address county medical societies:

Englewood Hospital—Aaron Arkin—Diseases of the Lung.  
 Woodlawn Hospital—Aaron Arkin—Diseases of the Liver.  
 Will-Grundy County—John R. Neal—Medical Legislation.  
 Will-Grundy County—Solomon Strouse—Obesity.  
 Will-Grundy County—N. S. Davis III—Hypertension.  
 Will-Grundy County—George W. Hall—  
 Will-Grundy County—Benjamin Goldberg—Tuberculosis.  
 Will-Grundy County—David S. Hillis—Obstetrics.  
 Will-Grundy County—M. L. Blatt—Convulsions in Children.  
 Will-Grundy County—Clayton J. Lundy—Film and Lecture on Electrocardiography Diagnosis.  
 Southern Illinois Medical Association—Philip Kreuscher—Why Organized Medicine.  
 Clinton County, Iowa—Paul Starr—Treatment of Pernicious Anemia.  
 Peoria City—N. S. Davis III—Hypertension—Coronary Disease.  
 Bureau County—Charles M. McKenna—"Diagnosis and Treatment of Diseases of the Kidney."  
 South Bend, Indiana—S. M. Feinberg—Allergy of the Respiratory Tract in Relation to Respiratory Infections.  
 Tri County Medical Association—H. M. Camp—Illinois Program for the Care of the Indigent.  
 Paris Hospital Staff—James H. Hutton—Clinical Application of Recent Advances in Pituitary Studies.

Jackson County—Lee Dorsett of St. Louis—The Conservative Treatment of Eclampsia.  
 Jackson County—Hugo Deuss—Clinic for Tubercular Patients and Lecture on Tuberculosis.  
 Scott County, Iowa—James G. Carr—"Cardio Vascular Diseases and Cardiac Pain."  
 Rock Island—R. H. Jaffe—The Pathology of Nephritis.  
 Lakeview Hospital—Aaron Arkin—Organic Heart Disease.  
 Calumet Branch, Chicago—James G. Carr—Cardio-Vascular Disease.  
 Decatur and Macon County—Ford K. Hick—The Use of Oxygen in the Treatment of Heart Disease.  
 Monroe County—Mather Pfeifferberger—Unusual Surgical Cases.

Doctor Frank J. Jirka and members of his staff presented programs before Madison, Coles-Cumberland, and Kankakee County Medical Societies.

#### LABORATORY DISCOVERY IN TUBERCULOSIS

Tuberculosis research is directed hopefully to a new avenue of experimentation, developed by Dr. Stephen J. Maher, of New Haven.

The discovery was made that a pure culture of standard types of virulent tubercle bacilli became transformed to pure colonies of cocci after a period of growth immersed in litmus milk.

The litmus showed that these cocci had emitted acid to the media. This acid byproduct is credited with the power to destroy the bacilli, and this experiment repeatedly demonstrated the complete destruction of pure tubercle bacillus cultures following the development of cocci. The laboratories of three state sanatoria were able to repeat Dr. Maher's technic with entire agreement.

It is apparent that excellent possibilities may be inherent in the process discovered in these test tubes. With adaptation it may be the scheme whereby the human body can be empowered to entirely destroy any such tubercle germs within its organs.

With thought to extend to the laboratories of the world the advantage of his discovery Dr. Maher recently described the test methods and made it clear he wishes all to feel free to use the data in a possible development of application of the method in the treatment of tuberculosis in mankind.—*School Physicians' Bulletin*.

#### THOUGHTLESS

Old Doc McTavis was taking a well earned vacation. His son just graduating from medical school taking over his father's practice.

"Dad, I made some marvelous cures while you were away," the son boasted, greeting his father on his return. "I even cured Mrs. MacGregor's stomach trouble after you had treated her for four years."

"What!" exclaimed the old doctor, "old Mrs. MacGregor? I'll have you know son, it was her stomach that put you through college."



## Original Articles

### EMBRYONAL ADENOCARCINOMA OF THE KIDNEY IN CHILDHOOD\*

H. T. MOSTROM, M. D.,  
and

J. C. WEST, M. D.

BATAVIA, ILLINOIS

Pure epithelial tumors in early childhood are exceedingly rare; much more so than are the adenomyosarcomas and the other variations found in the mixed tumors of the kidney and with which the name of Wilms has become closely identified. In either instance, however, we are dealing with a congenital tumor and all of them may be grouped under the general term of embryomata.

A review of the literature yields very little of value in either description or pathogenesis of embryonal adenocarcinoma of the kidney. In 1897 Walker collected a series of 145 cases of kidney tumor in children and reviewed the literature extensively up to that time. All of these tumors were listed as either sarcoma or mixed tumors and no mention is made of carcinoma except to say, "it is questionable if the latter ever occurs in very young children." This idea is still held by some writers on this subject. In 1920 Porter and Carter in a series of 11 cases of tumor of the kidney in children lists among other types 3 cases of carcinoma but offers no description or further comment. A year later, Hyman in a series of 40 cases, lists 8 mixed tumors but does not mention the type of tumor under consideration. In 1922, Mixer reports 27 cases, 23 of them coming to operation. In the latter number were 17 embryomata, all mixed tumors and no epithelial growths. Wollstein, in 1928, presents 18 tumors as a basis of study of renal neoplasms in young children and of this number 17 belong to the mixed tumor group while the remaining one is a spindle cell sarcoma. Then Mixer, again in a later report, 1932, records 41 renal tumors, 30 of which are mixed tumors, and 7 bear various diagnoses, including one tumor of epithelial origin.

Collectively, the above partial enumeration of

kidney tumors represents a rather sizeable number without much mention of adenocarcinoma as being associated with neoplasms of this region in children. Then, when we examine the statistics of Hinman and Kutzman we find that the incidence of these reported renal tumors in children is about 1 in 2,500 cases we get some idea of the extreme rarity of adenocarcinoma as a type of renal malignancy in childhood. In surgical cases only, Mixer gives the incidence as one in 535.

The number of instances have been few indeed where we have found adenocarcinoma, embryonal or otherwise, specifically given as the histologic tumor structure. Ewing recognizes this type of tumor and states that compared with mixed tumors of the kidney pure epithelial growths are rare in children. In an analysis of 170 kidney tumors Albarran found only 17 of the pure epithelial variety; two being adenocarcinoma, seven carcinoma, and the remaining eight being equally divided between adenomas and adrenal tumors. In addition to these we have been able to find only two cases reported in which the histological examination describes the growth as embryonal adenocarcinoma. Gardiner reports one of them and speaks of it as "a rare variety of renal carcinoma." Lightwood reports the other in a child nearly six years of age. Neither of them go much beyond the mere reporting of the case and neither of them state the subsequent developments as to life or death. Schultz mentions the finding of a carcinoma in the kidney; that it had no characteristics of a mixed tumor and that it probably sprang from a teratoid growth in the kidney. In addition to these there are undoubtedly a few more reported, particularly in the foreign literature.

When we note that these renal tumors of epithelial genesis have for the most part been reported in the last few years, the most recent ones in 1932, it suggests at least the strong probability that some of these tumors have previously been classified in the literature under the name of congenital sarcoma.

We now wish to report a case of embryonal adenocarcinoma of the kidney.

M. M., female, white, aged 2 yrs. and 10 mos., presented a tumor mass in the abdomen as the chief and only complaint. She was admitted to the Community

\*Read before the Section on Medicine of the Illinois State Medical Society, Peoria, May 17, 1933.

Hospital, Geneva, Ill., Jan. 3, 1933, on our service and discharged Jan. 17, 1933, in good condition.

History of previous illnesses negative except for whooping cough and minor complaints. Early last October the largeness of the abdomen attracted attention and this led to the discovery of a mass in the right side. This mass never caused her any pain or inconvenience and during the three months intervening between the discovery of the mass and our examination it is stated that the increase in size had been very slight.

Physical examination revealed a rather well nourished child, weight 33 pounds, color pale, and a prominent abdomen containing on the right side a visible mass occupying most of the area between the costal arch and the ileum and extending mesially to within a few cm. of the midline. This mass was freely movable, not tender or painful, ovoid in shape and perfectly smooth in contour and yielded a sense of fluctuation on pressure suggestive of a large, single cyst. 15 cc. of Skiodan was injected intravenously and an



Fig. 1. Section of tumor showing also remnant of kidney.

x-ray examination made. This showed the pelvis of the kidney pushed upward and inward by a dense mass with a smooth oval outline and intimately associated with the kidney. Urinary findings variable: albumin at times, occasional granular cast, trace of sugar noted once, no blood or pus cells. Specific gravity low: 1005 to 1010. Blood count: red blood cells 3,200,000; white blood cells 8,000 with 40% small lymphocytes and 60% polymorphonuclear neutrophils. Blood chemistry: urea nitrogen 28.02; creatinin 1.5.

Pre-operative diagnosis: Tumor of the kidney; probably sarcoma, possibly a large cyst.

Operation. The kidney was removed via the transperitoneal route for operative facility since the tumor and kidney substance was about the size of a small grapefruit. There were no enlarged glands or other evidence of metastases within the limits of the operative area. Examination of the left kidney showed it to be of normal size, shape and consistency. Stab drain inserted in the flank and abdominal wound closed.

Post operative diagnosis: Embryonal Adenocarcinoma of Kidney.

Description of specimen. This consisted of a large

tumor of the kidney 9 cm. in diameter and together with kidney remnants weighed 600 grams. The tumor itself was perfectly smooth in contour without nodulations of any kind on the surface, ovoid in shape, gray in color, and firmly encased in a dense, tough, fibrous capsule 1 to 2 mm. thick. The tension of the mass was such as to give it a sense or feel of fluctuation. In the mid-portion of the kidney the parenchyma had entirely disappeared and in these areas the capsule of the tumor had fused with the capsule of the kidney. In other areas the renal tissue was so thinned from pres-

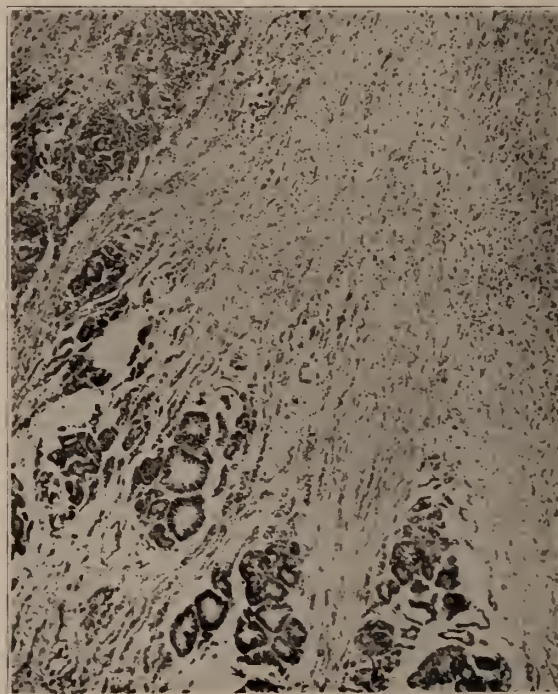


Fig. 2. Tumor tubules and cells infiltrating fibrous capsule of tumor (X70).

sure that it appeared as only a slight blush of color against the gray of the tumor capsule. At the poles the kidney tissue was not yet compressed and here we found normal functioning kidney structure. The kidney pelvis was in contact with the upper and inner surface of the tumor and the calyces were greatly dilated but not invaded by the growth. On cutting the capsule the tumor tissue rolled out over the cut edge and indicated the presence of considerable pressure. On completing the section the cut surface of the tumor was homogeneous, yellowish gray in color, with trabeculae of fine fibrous tissue going through it in an irregular manner.

Microscopic sections show a tumor growth consisting of rather regular glandular tubules lined with tall columnar epithelium appearing in single, double, and multiple layers. Many tubules show a fair sized lumen. There are other areas where the regular tubular appearance is lost and the tumor cells form solid, undifferentiated aggregations in which are narrow blood channels. Separating the solid masses and glandular tubules are thin strands of fibrous tissue with spindle



celled nuclei. There averages one to two mitotic figures per high power field. There are, however, fields in which no mitosis is observed.

The outer capsule is thick and fibrous while the inner side tends to be cellular and is invaded by vascular spaces and by tumor cell aggregations. There is also some calcareous degeneration in the capsule.

The kidney substance appears normal.

The little patient was carefully examined on May 9 and found to be clinically well. Urinalysis showed no albumin, no blood, and only an occasional pus cell. Blood examination: 4,700,000 red cells, an increase of 1,500,000 since operation; 11,000 white corpuscles. She weighs 35 pounds and is apparently as normal in every particular as any child of her age.

*Pathogenesis.* It is not our purpose in this paper to enter into a lengthy discussion regarding the various theories advanced to attempt explanation of the life cycle of these interesting

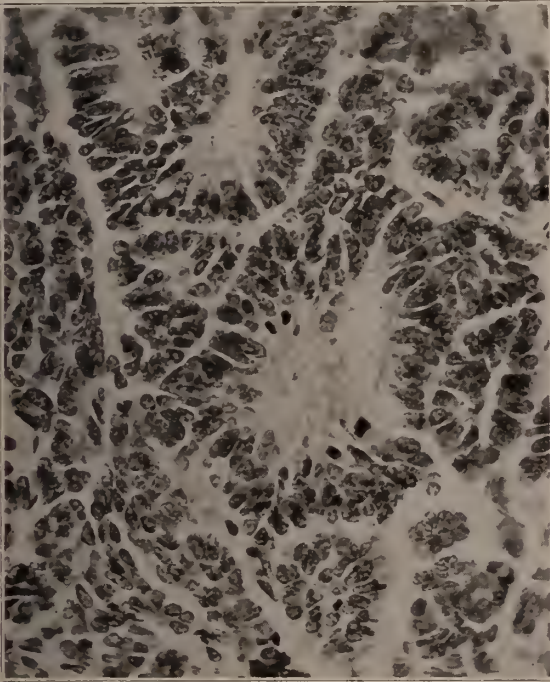


Fig. 3. Tubules showing mitosis in some of the cells together with undifferentiated stroma tissue

tumors of the kidney. However, in order to assume a reasonable deduction as to the probable origin of the pure epithelial variety of embryoma it is best to consider first the probable time element in the formation of mixed tumors. Wilms, whose theory of the formation of mixed tumors is probably the most satisfactory, places the period of cellular dislocation very early in the life of the embryo and before nephrotome, sclerotome, or myotome have developed from the

mesoderm. In this way he accounts for the presence of the several unrelated tissues as epithelial tissue, smooth and striated muscle fibres, fibrous tissue, cartilage, etc., within the confines of a single, encapsulated tumor structure.

In the early life of the embryo tissue differentiation for specialized function occurs rapidly. A little later than the period at which it is believed by Wilms that mixed tumors originate there is set aside in close relationship to the pelvis of the kidney a compact area of mesoblast which will be intimately concerned in the production of the convoluted kidney tubules and to this mass has been given the name renal blastema. If development has been orderly up to this point it would seem quite impossible that a mixed tumor could develop from the renal blastema; and at the same time should some of these cells fail to continue a normal course and retain the cell age of that particular time it would seem quite probable that nothing but an embryonal adenocarcinoma, or at least an adenoma, could be the result if a tumor is formed at all. It follows, then, that the earlier a tumor originates the more likelihood will there be of the renal tumor containing a multiplicity of tissues; while on the other hand, the more differentiation has proceeded the simpler will be the cellular character of the tumor. The genesis, therefore, of an embryonal adenocarcinoma such as is being reported, is likely of a later period than the time of origin of adenosarcoma and the other mixed neoplasms. This, we believe, should be considered in estimating prognosis.

*Prognosis.* Little can be said as to prognosis in this particular type of tumor. Much has been said in this regard of mixed tumors of the kidney. In Kretschmer's series of 17 mixed tumors 16 are dead. In Mixter's collection of 14 nephrectomized patients 13 are dead and one alive after 31½ years. In Walker's series of 145 cases only 4 are alive after 3 years. Other series of collected cases show about the same proportions. What the figures would be in a series of pure epithelial growths it is impossible to say since so far as we can ascertain no such series exists. The cause of death in practically all operative cases of mixed tumors is recurrence of the growth. The cases not operated on, of course, all die. Albarran and Imbert in a series of 42

cases found recurrences as follows: 29 within 6 months; another 10 in the next 6 months; and the remainder scattered along from 3½ to 5 years. Most of the deaths in Kretschmer's series occurred within 6 to 8 months. Eight of nine surviving operation in Mixter's collection died in 4 months to 1½ years. In Hyman's list of 8 cases 4 died within 6 months of local recurrence. It is apparent, then, that if survival is extended to six months and without evidence of recurrence the outlook becomes more encouraging.

The appalling mortality of mixed tumors may be due to the time of their origin. As stated above they must begin very early and before the tissues in which they originate have undergone much differentiation; it is not unreasonable, therefore, to assume that multiple implantations or points of origin may occur in that early period. Some mixed tumors are bilateral when first seen and others become so later and what may appear to be a metastatic growth may in reality be the development of another original tumor. The embryonal adenocarcinoma, on the contrary, develops from a tissue already well differentiated and this may have a bearing on the prognosis of a tumor of this type. There should be more probability of the growth being a single expression of an embryonic disturbance than in the mixed type and it lacks the nature of a sarcoma in its metastatic tendencies.

Another factor in prognosis, important in our minds at least, is the integrity of the capsule. Nodulations and irregularities indicate a breaking down of the capsule and the extrusion of malignant material through it. This facilitates local recurrence and metastatic deposits and is probably the greatest causative factor in the high mortality of all types of embryonal tumors of the kidney. Whether this breaking down of the capsule is more readily accomplished in the mixed tumors than in the adenocarcinomata is difficult to say at this time; but should such be the case then it will be of the greatest importance from the standpoint of prognosis that embryonal adenocarcinomas be not indiscriminately classed with all the various varieties of mixed tumors as is the tendency today.

We wish, in closing, to express our indebtedness to Dr. J. J. Moore for the histological description of the tumor and to Dr. H. L.

Kretschmer for his verification of the same and our thanks to both of them for their kindly interest.

#### BIBLIOGRAPHY

- Albarran, quoted by Ewing.  
 Albarran and Imbert, quoted by Garceau.  
 Ewing: *Neoplastic Diseases*. W. B. Saunders Co. (1928).  
 Garceau: Renal, ureteral, perirenal and adrenal tumors. D. Appleton Co.  
 Gardiner: Adeno-carcinoma of the kidney. *Med. Jour. Australia*, 2:(1928), p. 439.  
 Hinman & Kutzman: *Ann. Surg.*, 80:(1924), p. 569.  
 Hyman: Tumors of the kidney. *Surg., Gyn. and Obs.*, 32:(1921), p. 216.  
 Kretschmer: Mixed tumors of the kidney in infancy and childhood. *Surg., Gyn. and Obs.*, 52:(1931), p. 1.  
 Lightwood: Embryonal adenocarcinoma of kidney. *Proc. Royal Soc. Med.*, 25:(1932), p. 1399.  
 Mixter: Tumors of the kidney in infancy and childhood. *Ann. Surg.*, 76:(1922), p. 52.  
 Mixter: Malignant tumors of the kidney in infancy and childhood. *Ann. Surg.*, 96:(1932), p. 1017.  
 Porter and Carter: Observations on tumors of the kidney region in children. *Am. Jour. Dis. Child.*, 20:(1920), p. 323.  
 Schultz: *Abt's Pediatrics*, W. B. Saunders Co., (1926).  
 Walker: Sarcoma of the kidney in children: A critical review of the pathology, symptomatology, prognosis, and operative treatment as seen in one hundred and forty-five cases. *Ann. Surg.*, 26:(1897), p. 529.  
 Wollstein: Renal neoplasms in young children. *Arch. Path. and Lab. Med.*, 3:(1927), p. 1.  
 Wilms, quoted by Kretschmer. Quoted by Schultz.

#### DISCUSSION

DR. J. F. CAREY, Joliet: The embryonic tumors of infancy and childhood are most confusing as regards an exact classification. The most important factor in this jumble is that in the same tumor one finds totally different types of cells and totally different cell arrangements. These growths have masqueraded through the literature under diverse groupings arising from observers studying only one portion of the tumor. It is quite common in embryonic growths to see areas of round cell sarcoma, adenosarcoma fibromyoma, spindle-cell carcinoma and teratomaous areas.

However, as Dr. Mostrom has pointed out, compared to mixed tumors pure epithelial growths are rare in children or at least in literature attention is seldom given to the recognition of carcinoma in infants and many cases have undoubtedly been included under the name of congenital sarcoma. Nevertheless, inasmuch as all tumors of the kidney, which are recognized as such, are potentially malignant and they should be treated by nephrectomy. Since the physician cannot make a pre-operative diagnosis of the histo-pathology, he must concern himself with the diagnosis of a renal neoplasm and as soon as that is done nephrectomy should be carried out.

Highly important is a thorough physical examination especially in those cases of general malaise and failure to develop normally. If one keeps the possibility in mind that kidney tumors do occur in children, the diagnosis will not be difficult. The position, size and surface of the tumor is quite characteristic and usually easily palpitated through the thin abdominal wall. This is evidenced from the fact that so many times the child



is brought to the physician because the mother has felt the mass in the usual care of the child. The lack of urinary symptoms, especially hematuria, is misleading though microscopically pus and blood may be observed. Do not hesitate to give light anesthesia to a fractious child if there is any question as to a mass being present.

Good results and a lowered mortality is bound to come if these cases are diagnosed early since the tumor is slow to metastasize though it grows rapidly and large growths makes operative procedure very hazardous and disappointing. Interesting is the fact that they are usually unilateral and may grow to a very large size without metastasis or breaking through the capsule of the tumor.

Dr. J. J. Moore, Chicago: This is one of the rarest tumors of the kidney that has been reported. As to prognosis I feel that the patient, unless there is a similar tumor in the other kidney, will get along very nicely. The tumor was encapsulated and, although malignant, as far as could be determined had not penetrated entirely through the capsule.

Dr. H. T. Mostrom, Batavia (in closing): In order to conserve time I omitted mention of operative procedure. I wish to say, however, that all structures within the limits of the operative exposure were carefully examined and no evidence of extension or metastasis was found. The other kidney was found to be normal in every way. We feel that we have every reason to believe that the patient will remain well. The tumor was discovered early in October and it is now about eight months since discovery and over four months since operation.

Addenda: May we add that December of 1933 finds the patient still in excellent health and without evidence of recurrence.

---

## THE FUTURE OF MEDICINE\*

CHARLES J. WHALEN, M.D., LL.B.

CHICAGO

In common with the future of all national professions and industries, the future of medicine depends upon the degree to which our national conscience rouses to fight the imminent menace of socialistic usurpation.

Though scientific medicine stands aghast and stricken as the first victim of slaughtering socialistic and criminally communistic theorists and propagandists, the fate of medicine is bound to be the common fate of all.

Industry will be next. And no matter with what indifference the somnolent citizen may have regarded the struggles of scientific medicine to save itself, and by saving itself save civ-

ilization from devastation and destruction, when industry in its every variation feels the grip of communism, the day will have been lost irretrievably. Unless before the dawning of that day of downfall, industry will pause and ponder and take a leaf out of medicine's book.

For while to many doctors, in its fight against communism and chaos, the medical profession seems to have been merely pulling itself up by its bootstraps, this is not so.

Since 1907 medical men of vision aroused by abuses of medical charity in the first place, have seen the handwriting on the wall and cried aloud its warnings. Prophets in the ranks have preached continuously against communism cloaked as pseudo charity. As a result medicine has at last commenced to diagnose its own case and to prescribe a cure.

Heaven speed the day, when industry, ceasing to swallow socialist pap and gagging on chocolate coated communism, gathers itself together and summarily cleans house. This will mean retention of work and workmen but a grand discard of all of these "workmen's welfare" schemes that are only socialistic and paternalistic passing of the buck from the individual to industry at large.

You may not even dream of what medicine has discovered. Through paternalistic so-called "health and welfare" schemes, that would have destroyed scientific medicine completely by this time, if the doctors had not roused and commenced their bitter fight against state medicine, socialism, communism, and all the wild hordes that follow in the train of these misguided doctrinaires, through such schemes I repeat socialism planned to be carried into the very heart of the American industrial world literally on the backs of the medical profession. The universal saddle of course was to have been charity—so-called.

From the time, when in the name of common humanity, the small town employer first sent his own wife to play the midwife in the home of his humblest employe, a chain has been in the weaving that long since outgrew the silken charms of human friendliness. In its place have come fetters, spiked and thorny, that are aimed to drag into complete inefficiency the entire modern structure of comparatively sane existence.

Without tracing tediously intermittent procedures and realizing that professions and in-

---

\*Address before the American Pharmaceutical Manufacturers' Association, Chicago, June, 1933.

dustries are after all brothers under the skin, let us glance at the conditions surrounding medicine today. These conditions, unless lifted, will destroy the efficiency of medicine as the profession itself admits. And with medicine the complete captive of communism, think not that all other industry, all other professions, all other institutions of civilization will know delay in succumbing to socialistic puerility and malice.

You hear doctors protesting against "lay control of medicine." Do you know what that means? When a doctor speaks of lay control he means that persons other than men of medicine are running the medical profession and dictating the whys and the wherefores of this medical service.

To bring this home more clearly it is just as if a man who was a master baker, and who knew all about the temperatures of ovens, the consistencies of batters and doughs and the quantitative ratio of flour, yeast, sugar and shortening, should walk into his shop some morning, and find there a tailor, who had never mixed a biscuit or greased a pan, setting down the law as to how that baking should be done. And with the law backing up the tailor.

This is just exactly what lay control of medicine does to the medical profession. As I said before, since 1907 prophets in the profession, of which one of the most humble is myself have been out with ropes and axes to incapacitate this blundering interfering lay control. That at times it has been well-meaning enough in its way has not at all mitigated its menace. Menace without malice is menace just the same.

To show you how this lay control of medicine is closely akin to socialistic invasions of industry, take a brief glimpse at its workings.

One of the pet instruments of the would-be lay controllers of medicine is the philanthropy, misdirected and unwise of the endowed foundations and of corporations practicing medicine coupled with the politically inspired, professionally despised idea of compulsory health insurance, state medicine and increased taxation.

In far too many instances these endowed foundations are the left-handed offspring of well-meaning, wealthy, self-made captains of industry. In the desire to be fraternal to the rank and file from which by hard work, good judgment and self denial, they themselves have risen, these founders of foundations attempt to

exercise paternal generosity to all the people. The idea is a fine one for the philanthropist. But when the idea in practice works so as to depreciate the fine sense of self-reliance and self-responsibility that has built up a nation of kings from a nation of paupers—not to mince words as to our earliest settlers—then the idea is vicious. Further along in the line, when the idea of the founder of foundations works so as to take from any man his inalienable right to follow his trade or his profession, or to engage in business—takes away from him in fact that very opportunity by which the founder of foundations gained the wealth that enables him to do this very vicious act—then the idea is criminally pervert.

And like all vice and crime and perversion, once unleashed, it cannot be controlled. The endowed foundation, that by its poorly aimed unscientific help to humanity makes that humanity a mere bulk of indolence, resting upon a dole, and takes from self supporting men opportunity to support themselves is at once a lethal contact to democracy and to decency.

These endowed foundations with their centers, their clinics, their dispensaries, and over authoritative nurse have been a large factor in pauperizing the minds if not the bodies of far too large a proportion of our population. So keen has become the competition between foundations that now instead of caring for the pauper class alone, or the merely temporarily unfortunate, the scope of the foundations to give away medical charity runs to the point where in one certain city alone any man whose income was less than \$5,000 per annum was assured of practically free obstetrical care for his wife, until the wise headed business men back of this unfortunate idea were enlightened by medical men as to what they were doing. They admitted it would be pretty bad for the country and for the citizenry at large if every man whose income was under \$5,000 per annum could be assured of getting food, clothes, shelter, car fare, telephone service, dentistry, drugs, etc. for practically nothing. However the idea is still groping to shoot up roots.

Until the endowed foundationer got busy the doctors felt that they were doing pretty well in the way of medical charity. Statistics have shown, and it is not my purpose to load you up with lists of figures available in every library,



that the charities of the medical profession irrespective of the large amount of emergency and otherwise uncollectable accounts in normal times average about 33 $\frac{1}{3}$  per cent of their gross. The drug manufacturers and the wholesalers and even the retail druggists have had more or less poignant even if unsuspected competition from these same foundations or centers what with their own pharmacies, and in some of the cruder simpler drugs their own subsidized factories. It is only natural that the pharmaceutical industry should be one of the earlier industries to feel this contact. The university that is not above practicing medicine in competition with its own graduates is not going to shed any tears when it comes to the point of establishing chemical laboratories of such a nature that university manufacture of drugs will be an irritant rival to existing factories for chemicals.

Already manufacturers in many lines have felt the duress of trying to compete with merchandise thrown in the open market from the various factories from prisons or other tax-supported, state controlled institutions. Medicine has felt the pinch through governmental interference and control, (for the most part managed or partially so by laymen) in the attempt to practice medicine through local or state or federal health departments and through lay-dictated, handicapping medical legislation.

Every business should be controlled by its own acolytes, every profession by its own devotees. The tendency to take the control of medical practice, even public health department and sanitation bureaus, out of the hands of scientific medical men and place this control even partially in the hands of politicians or of business men whose work lies in other fields is a gross misdemeanor against the public, against the medical profession and against the business men themselves who are unwitting parties to such a transaction. Business all over the country has had its own troubles with both government interference and with the sinister by-product of political jobbery—the racketeer. Medicine racketeers have worked with a different weapon and with higher sounding title, but a racketeer by any other name is just a racketeer. His aim is destruction, his triumph chaos, and as such he is beloved of socialism and communism by the tax supported welfare advocates, and his works are paralleled in every profession.

For example, the medically forsworn state medicine lay directed, and tax supported movement finds an own sister in communism in the over developed workman's compensation, compulsory health insurance and similar semi-legal meddling with which manufacturing industries are only too sadly familiar.

State medicine has been tried and has failed in Europe. It will fall down on the job any place and at any time. Fiat medicine, politically controlled, means the end of the usefulness of the physician with the same results to the people as would entail if the fire departments of our big cities dropped their magnificent modern mechanism and went back to the hand pushcart, the hose and volunteer fire department.

There is not a single statement that I am making on this occasion that has not been proved to the satisfaction and the confirmation by hundreds of authorities on science, medicine, politics, ethics, and actuarial economists.

One of the most vociferous proofs of the inadequacy of state medicine, one of the most glaring testimonials against communistically conspired conditions for the United States of America lay in the hard-dying Sheppard-Towner act. Born in the spinster confines of the Childrens Department of the Bureau of Labor, it was put into effect in a great many noncomprehending states simply because its proponents, mostly political workers in need of a job, sold the measure to the voters with the idea that when the Sheppard-Towner act was working no child would be born without its mother being in comfortable surroundings and with competent care during her ordeal. It took the states that tried it only a short time to discover that the taxes spent to support this legislation went principally to pay salaried inspectors and that it was illegal under the provisions of this act to spend a single penny of its revenue to buy a new born babe so much as a diaper or an ounce of baby food.

Every manufacturer has found himself up against just such legislation when it has come to the running of his own industry. The sigh of relief that he may have breathed when he thought conditions temporarily abrogated is going to be a howl of despair when he discovers that socialism never sleeps, that one of the greatest of communistic weapons is the art of inviolate bureaucracy such as develops into over-



centralization in Washington, thrives upon the condition of our country now, burdened as it is with more handicapping laws than those which drove pre-revolutionary France to its blood and fire and which, finding medicine in the act of getting out from under is already seeking targets first in the industries allied with medicine and next in contacts farther afield.

Now medicine has its teeth clenched for the fight. It is fighting with organization and with determination. It needs every ally it can get and surely industry, next in the line of attempted conquest, should join the fight against communism. It has been sitting on our doorsteps more hardily than many of us have guessed.

And medicine is not fighting by words alone. In addition to organization throughout the profession there is a tendency to sit down, take stock, evaluate conditions and confer upon a cure. For example medicine is first of all finding out its own weak spots, for if medicine fails in its fight for humanity it will fail with its boots on and its saddlebags over its shoulder.

The socialistic stunt has made much of bringing medical and therapeutic service to isolated communities. So scientific medicine is already busied on some scheme to afford a better distribution of physicians, to minimize the preponderance of specialists and to urge the return of the family physician to cut down the costs of medical preparation and in some wise and equable manner cut down the costs of medical care so that neither the patient nor his physician shall be pauperized. Nor is medicine oblivious to the stress of the hospital situation, to the woes caused the private hospital of good repute by the enormous institutions financed by endowed foundations or the steady encroachment at tremendous needless expense to tax payers for the maintenance of unnecessary government owned and supervised and controlled hospitals.

What is true of medicine is true of industry. This check that has been placed upon socialistic invasion of medicine, even though it be only begun will divert the communistic attack to other lines. And let me call your attention to the fact that the wooden horse upon which these invidious agencies are now focusing is the fatally socialistic measure of Compulsory Health Insurance.

Defeated by medical interests in 1920, it was revived in the socialistic camp, and these anti-

American crusaders, realizing that medicine is keeping a weather eye upon their antics are attempting now to foist this measure upon the general public through state or national legislation, which ever may prove the more amenable medium. You find its agitation, you find its campaign swooping out at you from hundreds of tangents. The curse of Europe would transfer itself to American shores. In England, for example, compulsory health insurance practically bankrupted England. It was the mother of the dole, the most misbegotten child of socialism that ever corrupted a self-respecting nation. Under compulsory health insurance the constitutional idler found his way to complete parasitism suddenly made clear. Under the panel system, the honest doctor found himself a protesting pauper, slaving like a pieceworker in a sweat shop and commanded to render service at a rate of speed that is diametrically opposed to competency.

The government has entered so many phases of business in direct competition to taxpayers that it makes it exceedingly difficult for individuals to earn enough upon which to pay taxes. There is too much government in business and not enough business in government or this would be changed.

As can be seen from these remarks, from this point the future of medicine hinges more upon the economic than upon the scientific. Surgery, research, and scientific achievements having hit their stride are swinging along towards perfection insofar as perfection is possible to mortal man. Yet without the leverage of certain economic balance, the three will become as top-heavy as an uprooted tree. Science and economics cannot be divorced in any profession any more than proficiency and economics can be divorced in business and industry. Those same economic tendencies striving to disrupt medicine today are so engaged with the destruction of all existing order and systematized industry as the main objective.

In its own combat against communistic encroachment medicine is fighting the fight of industry, democracy and sanity. "United we stand, divided we fall."

So medicine asks of industry this question, we have let you look into the crystal, do you fight with us or stand idly by?

## OCCUPATIONAL DISEASE.\*

M. EARL BRENNAN, M. D.

EAST ST. LOUIS

During the past decade industrial medicine, hygiene and toxicology have assumed a higher position of prominence and interest in medical meetings and writings.

The health of those in the middle span of life is now requiring and receiving more attention. Some prevention activities in contagious diseases and infant work is being transferred to this age group. With this program, the health of the worker, and conditions under which he or she has to labor, has been and is now under observation and consideration, to determine its relation to general health.

Personal, home and community hygiene and conditions play as much, if not a more important role, than the industrial or occupational role, except in those occupations or industries, which expose the worker to harmful conditions or substances, not encountered in the ordinary daily life of the average individual, at least not sufficient to produce any appreciable body changes or ill health.

These occupational exposures may produce many states of ill health. Some cause specific diseases. As a group they are called occupational diseases, or sometimes industrial diseases, intoxications or poisonings. Exposure to the same harmful substances, in sufficient quantities, under any circumstances, will produce the same harmful effects, whether associated with an industry or not.

What is the present status of occupational diseases in Illinois? Is occupational disease and control a problem for Illinois? The Illinois Department of Public Health requires the reporting of all acute and chronic diseases or other deterioration or impairment of the health of the worker or employer, as a concomitant or result of the use by the manufacturer of any of the following hazardous substances or processes in which poisonous vapors, gases, dusts or fumes are produced in harmful quantities or under harmful conditions: Lead and zinc and their salt or compounds together with the smelting of either or both; arsenic, phosphorus, mercury,

copper, tin, manganese, cadmium or their compounds; manufacture, melting or pouring of brass or bronze; the coal tar and petroleum derivatives and distillates; all acids either mineral or organic including chromic and chromates; all alkalies; all gases, including illuminating, refrigerant, automobile and others; abrasive or disease producing dusts of metallic, mineral or vegetable origin, turpentine, carbon tetrachloride, carbon disulphide, hydrogen sulphide and lead tetraethyl; methyl alcohol, caisson disease and other poisonings. (Jake paralysis.)

The records from the Illinois Department of Public Health for the past six years show:

The number of establishments having occupational diseases were:

1927	1928	1929	1930	1931	1932
35	36	42	43	26	16
<i>Cases of occupational disease reported:</i>					
210	114	213	124	97	61
<i>Number of men employed in Plants having occupational disease:</i>					
34,279 <sup>1</sup>	28,670	35,000	38,492	27,644	2,514
22,000 <sup>2</sup>	21,000	46,880	30,000	23,000	0,000
12,279 <sup>3</sup>	7,670	11,880	8,492	4,644	2,514
1. Total Employees					
2. West. E. Co. employees					
3. Employees all other plants					
<i>Cases of lead poisoning only:</i>					
209	109	120	79	84	46
<i>Number of deaths from occupational disease: (Taken from death cards).</i>					
...	1	9	8	2	10
<i>Cases of lead poisoning reported by myself:</i>					
58	32	17	5	4	15

The total number of cases of occupational diseases reported for the past six years was 819, of which 647 or 79 per cent. were due to lead. There were thirty deaths reported due to occupational disease, making one death for every 27.3 cases reported. One hundred thirty-one or about 20 per cent. of the lead cases were reported by the writer, who does about 40 per cent. industrial work. This data reported for six years, in an industrial State like Illinois, with all its various industries and over 11,000 physicians, with one reporting 16 per cent. of all the cases reported, caused me to attempt a survey of the industries in Illinois, to ascertain, to what extent, in my own personal opinion, from the nature of the industry, occupational disease hazards were a possibility.

The best and latest information I could find was from the United States Department of Commerce, Bureau of the Census, for manufactures for the year of 1929 issued in 1932. In 1929 Illinois had 15,333 manufacturing estab-

\*Read before the Section on Public Health and Hygiene. Illinois State Medical Society Meeting, Peoria, Illinois, May 16-17-18, 1933.



lishments reporting products valued at \$5,000 or more. The salaried employees numbered 135,952 and the average number of wage earners was 691,555 or total 827,503. Seven hundred seventy-two establishments had no wage earners; 12,360 had fifty or less and 76 establishments had 1,000 or over. According to the nature of the establishments separate figures are listed in over 200 classifications. Thus, by the nature of the products they manufactured, I judged, whether or not, in my opinion, there may exist an occupational hazard for some employees.

I found 83 classifications on this basis, which totaled 6,290 establishments employing 83,387 salaried workers and 390,987 wage earners. Total employees 477,354.

Lead is probably the oldest and most widespread industrial or occupational hazard in all countries and in the State of Illinois. Lead or its compounds are used in practically every industry in some process or step in the manufacturing procedure.

Medical text-books do not devote much space or emphasize the importance of the subject, but there is abundant literature on lead and its effects.

I have been interested in industrial toxicology for twelve years, and have enjoyed quite a liberal experience with lead poisoning, from several types of hazards in different industries. For ten years I had a monthly average of about 200 men, who were under my observation and care, on account of lead hazards, exposure to fumes, vapors and dusts. There were always some showing absorption and generally one or more cases of poisoning or intoxication under my care. I was engaged not only as a treating physician, but primarily in a preventive capacity.

My experience with lead poisoning over this period of time does not agree with some of the literature as to the serious after effects of disabling conditions said to be produced by lead. I question if the ill effects of chronic absorption are so severe. I know in the distant past gross neglect is recorded and much severe poisoning occurred; also women and children were employed and the records, particularly of some foreign countries showing much ill health, was a disgrace to that period.

Ohio is an industrial State nearly the size of Illinois. In 1929 Ohio had 11,855 manufac-

turing establishments, employing 741,143 wage earners.

The bulletin of The United States Bureau of Labor Statistics No. 488, gives the number of compensated claims for lead poisoning from July 1, 1924, to July 1, 1927, in the State of Ohio as 907; 37 or 4.1 per cent. terminating fatally. Permanent disability in only one case; disability over 7 days 759. Less than seven days, 45 and 65 cases with no time lost. The 907 cases are distributed in 19 classes of industries. The days lost total 277,027 with an average of 305 days lost per case. This I cannot understand, almost one year disability per case. Four industries with one case occurring in each has recorded the cases losing respectfully 11—3—18—24 days, so I judge the average days lost means just that. Evidently most of Ohio's reported cases are severe poisonings.

I will give you some data, from my own experience, with lead intoxication or poisoning, in one lead industry usually referred to as the most dangerous of all lead hazards (except tetraethyl lead) namely manufacturing of red lead and litharge; both are fine dry powders. Starting this plant with inexperienced help was a trying situation and naturally a greater number of cases occurred in the beginning.

These data do not include absorption; all cases are intoxications with subjective and objective symptoms. The first year, 1922, we had 68 cases with 559 men, losing 1,133 days or 17 days lost per case, average duration of exposure 12 weeks. One case to 8.22 employees or one case to 82.8 tons finished product. The next year, 1923, had 48 cases with 685 men, losing 613 days, or 13 days lost per case. Average duration of exposure 79 weeks; one case to 14.2 employees or one case to 151.3 tons of finished product. The year of 1929 reached our greatest production; we had 9 cases among 497 men, losing 228 days or an average of 25 days per case, one case to 56.2 employees or one case to 1,264 tons of finished product. The total number of cases for ten years (1922 to 1931) was 229, losing 4,891 days, average number of days lost, for total cases 21.4 days; actually lost 25.9 days. Total cases for the first five years 177, total cases for the second five years 52, a 70.6 per cent. decrease. Tonnage for the first five years 38,058, tonnage for the second five years 47,488 a 25 per cent. increase. There were no



deaths; one case of extensor weakness of both wrists permanent, after  $7\frac{1}{2}$  years of exposure. Two cases with acute cerebral symptoms that cleared up rapidly; one uremic in type and the other maniacal both precipitated or at least associated with acute alcoholic intoxication. No permanent disability.

Kidney damage is supposed to be easily produced by lead. Kidney irritation or damage, as indicated by urinalysis, has not been very common in my experience. Checking the records from one hospital, on urinalysis, on all of my cases that were in the hospital for treatment or laboratory work: 81 showed no albumin or casts; 9 had casts and albumin clearing up before leaving the hospital; 2 had albumin, but no casts, which cleared up; 4 with albumin and casts and 2 with albumin, with no later urinalysis recorded. These were all men ill with lead poisoning, with absorption over various periods of time, the greatest 21 years, was negative for albumin and casts. Hypertension was not a common finding either; 15 men examined last summer before oxide plant ceased operations had five years or more exposure. The average for the 15 men were: length service 7.6 years, age 34, height 5 feet 8 inches, weight  $143\frac{1}{2}$  pounds, blood pressure systolic 130, diastolic 77, hemoglobin 80. Two showed slight trace of albumin, but four subsequent urinalyses have been negative; the youngest was 29, and the oldest 51 years of age.

I have not attempted to show or tell you lead is not a dangerous substance or that it cannot cause severe illness or death, but have attempted to show, that it can be made more safe for workmen with the proper co-operation between the management, workmen and medical department, provided the preventive program functions twenty-four hours every day.

Prevention is primarily a medical problem; engineers, chemists and others may be utilized, but the medical mind is essential in the team. The treating Doctor, who may occasionally visit in the executive offices, is of little value. The physician must first be interested himself in occupational diseases and their prevention. He must spend sufficient time around his plant, to learn every detail of operation, starting with the executive's offices down to the least laborer. He must know the chemistry and physics, taking place at the various points, and why processes

are done this way and not some other. He must spend sufficient time observing the men at work, how they accomplish their work, study the character of the men including foremen and higher officials. With this knowledge he will know details, that will be necessary to put over his ideas or plans.

Industrial life or work is interesting to me, because, twenty-one years ago I worked in plants having industrial hazards; for three and a half years while out of school and for five summers while attending school. Workmen and their habits, customs, ideas and languages were familiar to me. Their attitude towards industry in general, I understood; their ignorance concerning health hazards was shared by me at that time. I also was exposed to silicosis working about a sand blasting outfit, with dust so thick it was necessary to keep your eyes and mouth closed. Many a time, I rinsed my mouth out to get the grit from between my teeth, and on night shift knew no better than to sleep, when I had time, within fifty feet of the sand blast, and on awakening would wipe the dust off my closed eye lids before opening them. The sand blasting outfit was constructed resembling a corn crib. The purpose was to keep the spray of large particles from striking others outside. We knew the dust was unhealthy in general, and that the sand blasters became sick, and went to the hospital to have the "sand pumped from their stomach." From the gritty feeling in our mouths, the idea was that swallowing the sand made you sick, never thinking about lungs. I even requested a "pig snoot" which I never received, sand blasters were given one, but they never used them very often. The helmet was for physical protection. The plant physicians and management were practically as ignorant as we were, at that time.

The next interest has to be on the part of the management, it must be sincere and honest in purpose; not any apparent interest, simply to comply with legislative regulations, because, all of the necessary measures cannot be legislative in nature, only in principle. My companies had this interest, and my compensation was figured, to allow for study, time to think and expenses to travel and see what other companies were doing. The vice-president's parting words were: "Doctor, I like the Chinese system, I hope you don't have a patient."

This is the spirit necessary for success. After digging below the surface on lead in text-books and plowing through the literature and special treatises on lead, especially some of the foreign data, I thought, "what a fine mess you have gotten yourself into, my boy," but after visiting other lead plants, talking with the executives, getting the detail of the plants from them, and visiting with the plant physician, I felt more comfortable but still could not associate the picture I received by personal contact with the one from the literature. After getting well into the work I could appreciate the literature on the subject and realize the hazards that had existed and still exist in some places.

The workman is the next interest required to complete the triangle. His interest and co-operation are difficult to cultivate, especially in a plant already operating, with all the habits, customs, and established ideas well grounded. One plant had been an old established plant for years, while the other was just starting operations, each manufacturing a different product and differing in all respects. The workman must be sold the idea of prevention and made health conscious. Rules and regulations must be understood by him and the reason explained in his language, impressing the fact that all is for his benefit. All the benefits of science and an honest effort to protect him, are of no avail, if he will not cooperate. Fully one-half of all our illness was due to the disregard of the man himself. He can devise more ways and means, to make a respirator do the opposite for what it is put on his face to do. We have used all the respirators on the market I believe, even had one set of men for whom it was necessary to use army masks with canisters for a time. The two night shifts are problems when day time supervision and authority are absent. If not checked closely, intoxications will appear, to indicate laxity. I have had few men stay with the industry, that did not need a good belly ache, to teach them to respect the material with which they were working. Some men becoming leaded after short exposure, and returning to the same job later worked for years, never receiving enough lead to have an attack, with no change in the working conditions but a change on his part, by doing what he was told. Certain hazardous work is always done slowly and with ease, try

and teach a man to hold a long handled shovel at the end, stand up, and shovel from the top of a pile and gently swing it over a receptacle, resting it on the other material and gently turn it over, and reverse the operation back to the top of the pile. All such seemingly minor details are what achieve success. Stubborn and careless workmen have to be discharged or penalized for their own benefit, and to protect other employees. Prevention measures cannot be carried out by simple instructions to foremen. Their responsibility is to get out a given amount of work; production is their interest and job. We tried it; they will take chances and overlook infractions of the rules or even wilfully break them to get a job done. A safety man is essential but he must have authority throughout the plant, and right or wrong his word goes. He will soon correct his own mistakes.

Hoods and down drafts and other mechanical devices are essential. The faults I find with them are: not close enough to the source of dust, too many on one line or system, not enough pull. I like to see them function so that my cigar smoke, or match flame will not hesitate to travel up or down as the case may be. Respirators are your last resort as a mechanical device, but these have to be watched constantly to see that they are in working order and functioning. Watch the hairs on a man's lip or in his nose, the respirators may do good for the first few hours, but what about the remaining hours? In using disks it has been necessary at times to send a man round as a cigarette girl ever so many hours changing disks.

This is not as easy to accomplish as it is to write about. Time is required, changes are slow, and new problems are always arising because no industry stands still; procedures and methods are always being improved upon or at least an attempt to do so.

If the program is running well, some of the work can be done from your office, because any man coming in who is leaded has been allowed to absorb too much, either by his own neglect or some one else's. If you know your plant, a detail history as to what he has been doing and how it was done, tells the story. Many a man has indirectly told me, that our plans were not being carried out and a telephone call may correct matters. Hours of work, over time, alternating of positions and many other items are



always part of the program. In fact the program is never complete for any great length of time.

I would like to mention silicosis, a very serious occupational disease. It is caused by inhaling dust contaminated with silica, which causes the production of scar tissue or fibrosis in the lungs and usually becomes complicated with tuberculosis, if not associated with tuberculosis from the beginning.

Silicosis is referred to as an ancient disease, still definite knowledge concerning it does not date back many years. X-ray has differentiated and made silicosis a definite disease identity. Its development depends upon the amount and size of silica particles inhaled, and may require years to manifest itself. X-ray evidence may be present without clinical findings. It is said to be a constant progressive disease, once firmly established, with no regression, and early death after it once becomes disabling.

Silica is found in most hard substances forming the earth crust, various ores, minerals, stones and sands. The use of these substances with the production of dusts is responsible for the disease.

This is one occupational disease that many industries, having the hazard, do not appreciate the danger, on account of the time required to develop the disease, if air contamination is slight.

Until the recent past, silicosis has often passed as tuberculosis. I feel that it is a very important industrial health problem for Illinois. Time will not permit mentioning the various other occupational diseases.

The treatment of occupational diseases is the most important phase of the whole subject, because, in the treatment lies the cure; to cure, the treatment ultimately resolves itself into prevention. The prevention of occupational diseases is the most satisfactory and economical cure.

Medical therapy is practically confined to eliminative measures, and symptomatic treatment, after removal from further exposure. Calcium therapy in the acute toxic stages of lead poisoning, with de-leading by alkalies or acids, as outlined by Aub ("Lead Poisoning," by J. C. Aub, L. T. Fairhall, A. S. Minot and P. Rezenkoff, Baltimore, Md., Williams & Wilkens Co., 1926), is the accepted treatment for lead. Sodium

Thiosulphate has been of little value in my hands with lead or other metal poisoning, but a 2 to 5 per cent. solution as a shower bath, is a good preventive for arsenic lesions of the skin.

In conclusion I will simply repeat the old adage, "An ounce of prevention is worth a pound of cure."

Katherine Building.

## DISCUSSION

Dr. Wm. C. Nordholz, Chicago: I am sorry I did not arrive a bit earlier, but I was of the opinion that my time to discuss this paper was an hour later than I find the schedule reads. However, I had the opportunity of reading Dr. Brennan's paper, which he sent me the latter part of the week, and I enjoyed it very much. He covered the subject most thoroughly and has accomplished much in occupational diseases. I am happy to have learned that he has real contact and does not report to the 42nd assistant to the vice-president, but does report direct to the vice-president. I believe this is a big factor, and without this contact, I question whether he would have been able to accomplish these wonderful results.

I think the biggest handicap most medical men have who are connected with an industry is that they do not have contact with the president or vice-president of the organization. In my large plant, I report direct to the president of the company, and he and I have established a general policy pertaining to all health questions; the managers, superintendents, etc., do not have the authority to interfere in any health problem in this industry.

The late Dr. John Dill Robertson, I believe, was quite true when he informed the Wilson & Co., packers, that the doctor should be a member of the board of directors, and I believe that the time is coming when these captains of industry are going to realize that their directors of health deals with the largest asset they have, and that no board of directors will be complete without the health director being a member, just as we have directors who have charge of sales, others who have charge of manufacturing and traffic, etc., and when they realize this, I believe, bigger strides will be made in health and industry.

I have in mind probably the largest plant in the state. Three or four years ago, they employed as high as 36,000 or 38,000 people, but the medical department apparently exercised no authority whatever for I had the opportunity about a year ago to inspect a part of this plant where they were using carbon tetrachloride to clean small metal parts. Our plant was about to use carbon tetrachloride and I was consulted before they entered into this project. I at once raised objections, but I was assured that this big institution had the thing thoroughly safeguarded and if I would just go out there, I would be convinced that the thing was in tip-top shape.

On my arrival there, I met the industrial engineer and the superintendent of the plant and then we jour-



neyed to the department where the carbon tetrachloride was used. Before arriving in this department, I made inquiries whether their set-up had been approved by their medical department, and they assured me that it had. When we arrived within about 50 or 75 feet of the first operation, carbon tetrachloride fumes could be detected in the air. In the first operation, there is a tank where the parts were immersed after being placed in a perforated container, somewhat the shape of a pail with a handle, the tank was sealed, and that particular operation was apparently safeguarded as they showed me a suction pipe drawing the fumes from within the tank.

However, in this next operation, the perforated pail or container was lifted up out in the open air, with all the parts well saturated with carbon tetrachloride, the fumes readily disseminating throughout. I pointed out this operation, and they informed me that their men wore masks and they pointed to one these small nose respirators without any fresh air intake as the protecting mask. I made inquiries of the engineer as to the intelligence of the respirator as to how it could sort out the fumes of the carbon tetrachloride from that of the fresh air. He had no answer to this question. I then informed him that in my opinion this type of a mask was absolutely no help, but put more of a health hazard to the occupation by using them, inasmuch as, the employee thought he was protected but he was not.

The next operation showed girls scrubbing small parts with a small hand brush. Carbon tetrachloride being set within a recess of the work bench in a space about 8 x 8 inches, and an open container of fluid about 1 inch below the level of the table. Plenty of carbon tetrachloride fumes, of course, could be noted over these benches. Examination of the hands of these girls showed them to be all fissured and none of these girls had worked there over a period of 3½ or 4 weeks, where they used large cloths saturated with carbon tetrachloride. Another splendid way of disseminating the fumes of the carbon tetrachloride and this set-up had apparently been approved by the medical department. I can hardly believe this to be a fact, but I am rather inclined to believe that they borrowed the rubber stamp of the medical department and stamped the approval on it.

We have a practical safety man at our plant, and between us we worked out a plan which properly protected all of the employees, there being no dissemination of the carbon tetrachloride than can be determined. Had we had any difficulty, I would probably have called upon our good friend Connolly for one of the men in his department, and I know we could have worked out a plan that would have been very satisfactory.

We have an O. D. law on occupational diseases, but I don't believe that it is enforced, and until all occupational diseases are put under the Compensation Act, I question whether you will enforce the O. D. law. The O. D. law has no teeth, at least I don't think it has, and teeth should be put in the law. Now, as to what is going to constitute an occupational disease and how

to control this law has been a problem for some years. We have a few occupational diseases coming under the Workmen's Compensation Act at this time, such as lead and its various forms, arsenic and mercury, but there is always a question as to how to put them under the Act for it has been a difficult problem to determine the onset of the disease whether Brown & Company is responsible for the occupational disease or whether Jones & Company.

Chemical engineers have added so many substances that are used in industries today that the opportunity to study these substances as to whether they produce any occupational disease or affect the general health in any way or another of the employees has not been possible. There is no question but that this must be done, and I am rather inclined to believe that the best place to do this would be at the State University for the medical school is in Chicago, where virtually all of the important occupational diseases can be encountered.

I proposed to our good friend Victor Olander of the Illinois Federation of Labor the following:

That the Governor appoint a commission of nine men who would be empowered to make a study of the various occupational diseases or the substances used in producing these diseases, and after this commission had approved of the disease as being an occupational disease, that disease or substance would then be added to the occupational diseases of which we have sufficient knowledge today to designate them as such, namely, such things as the various forms of lead, arsenic and mercury and all of the others. This commission would be composed of six doctors and an industrial engineer and a representative of labor and one of the employers. These studies to be made possibly through the Illinois Research Hospital.

A set-up of this type, I believe is the answer in doing the research work in occupational diseases, for the present law is such that the Act can only be amended every two years and it always causes further controversy when each substance or disease is added to the law.

Another point I feel is of the utmost importance and that is to develop a closer cooperation between us, who are handling work in industrial medicine and surgery, and say, the State Department of Health.

Some years ago when Dr. Arnold H. Kegel was the Health Commissioner of Chicago, I proposed to him the creation of an Advisory Board on Occupational Diseases and Industrial Hygiene to the Health Commissioner. He took kindly to the idea and such a Board was appointed by him, and I had the privilege of being the chairman of this Board for some time. We met at the Commissioner's office with his medical men who were handling the industrial hygiene and the Engineering Division, of which our good friend Connolly was a member. It was sometime before we were fully organized and got into the subjects, but we finally did and I believe it was the opinion of most of us that some real constructive work was being done when politics changed the Health Commissioner of Chicago. We who were giving our time gratis to the subject

felt we could not continue with the newly appointed Health Commissioner.

I believe such a Board working in conjunction with the State Department of Health might be quite a factor in developing a closer cooperation than has existed.

Dr. Brennan: I was glad to hear Dr. Nordholtz recommend an occupation industrial commission to study the occupational disease situation in Illinois. I told you at the beginning I had a paper, which, when put together, was about an hour's talk. In it I had some recommendations regarding a medical commission, with the assistance of engineers and chemists to first determine and know more about the industrial conditions in the industries that have hazards, to set a standard of what is required as a safety measure by actual dust count, actual determination of pollution, and a thorough grading of industries that have occupational hazards, somewhat similar, in the case of milk, as Grade A milk, we put a stamp on milk to designate its value and safety to health. If you grade an industry as Grade "A" that which conforms to all the rules and regulations and recommendations, that the air pollution is cut down to such an extent that it is perfectly safe, and see that these conditions are maintained and then be willing to back that industry against all fraudulent litigation. The industry will gladly go along with your program, provided you can show them you know more about their problems than they do, and provided there can be some reward to them for changing from their present situation. I think the industries can get substantial reductions in insurance rates. Many insurance companies are just waking up. They have been stung so often. They have taken plants on a competitive basis, and have taken whatever comes along with the hope that the hundred per cent. plants will equalize the bad ones. Also these industries, if they are labeled as such and carry out this program, can secure a better class of workmen; I think everybody will benefit by it. But I think you have to give a little reward to the industry, something similar to a talk I heard by Dr. Meyer, the grand daddy of Grade A milk. Pasteurized milk as baby food was not totally satisfactory. Certified milk was too costly, he found the only thing unsatisfactory with pasteurized milk, particularly for babies was the fact, it contained a lot of gas forming, spore forming bacilli from manure and dirt. He worked out the solution, termed as a grade A milk. They told him he was crazy, that he couldn't get anybody to do the simple things he wanted done. Finally talking to a hundred and forty or fifty dairy farmers, he explained his plan to them in their language and only nine of them agreed to go along with his suggestions. All these farmers had to do was to wash their hands before milking the cow, washing the udder before they milked and scalding out their milk pails. They designed a different pail to keep out dirt, to cool the milk to a certain temperature. They taught them how to do in with water. And as the milk came in, they paid a premium above the standard price based on the bacterial count. Fifty thousand bacteria per C. C. was the maximum and as the count decreased they received a higher price, and now they

receive raw milk with as low as ten thousand bacteria per C. C. The factor that makes the farmers go along is their reward financially. The first few farmers got their checks with an extra dividend of five or nine dollars on account of the "bug" count, hard-shelled bacteria, as he calls them, and the other fellow thought he had better wash his hands, wash the cow and do a few things so his check would increase, and the grade A standard has spread throughout the whole country. Dr. Meyer is kept busy traveling around the country telling the farmers and dairymen how to produce Grade A milk, and the factor's that put it over, was what? First he knew more about his subject than any one else. He knew where the trouble was, and how to correct it by simple procedures and he gave a little reward to the individual who changed from his routine to the one recommended to produce grade "A" milk.

Dr. J. J. McShane, Springfield: I shall have to take exception to my good friend, Dr. Nordholtz's statement relating to enforcement of the occupational disease law. First, I wish to state that the enforcement of the Occupational Disease Act does not come directly under the Health Department but directly under the Division of Factory Inspection in the Department of Labor.

We regret that the law does not require that all physicians—whether they are in charge of medical service in some plant or in private practice, must report all cases of occupational diseases diagnosed by them. Unfortunately the only report that we receive at the present time are reports sent in by physicians employed by different plants having their men examined under the provisions of the occupational disease law. I believe that there should be some standardization of the medical examinations, so that we will get some uniformity by those making the examinations, for I am sure that some of these plants must have some occupational diseases—at least there should be one or two reports from the large number examined monthly in some plants.

I do hope that we can get help from the medical profession, especially from those doing industrial medicine and surgery in advising us as to the different plants that come under the occupational disease law and do not have the monthly examinations made as required by the Occupational Disease Act. If this were done, we could go a long way towards getting a medical service in plants, where at the present time very little medical work is carried on. Many of the plants that formerly sent in occupational disease reports are not reporting at the present time, due to the fact that the plants have not been in operation for weeks and others for months. Others complain that companies in the same line of manufacture are not complying with the occupational disease law and that is their reason for not wanting to continue having monthly examinations made.

As I stated before, we receive the monthly reports and relay them to the Division of Factory Inspection in the Department of Labor and we have no way of knowing just what factories should report only through being advised by medical men, industrial surgeons or



by the department of Factory Inspection or by our own Inspector of Industrial Hygiene. To illustrate the point, recently three men came to the Department of Public Health making complaint that there was a pottery factory in their community that was responsible for a number of cases of silicosis. Of course, we did not know whether this is true or not but at least their complaint informed us of a pottery manufacturer that was not reporting or having their men examined. I am sure that there are a number of plants in Illinois that should have their men examined for occupational diseases and if the medical men will only furnish us with information as to where these plants are, we shall appreciate this information.

Dr. Lloyd Arnold, Chicago: I particularly enjoyed Dr. Brennan's paper, inasmuch as my contact with industrial work is that of teaching and usually more or less on the theoretical side, and particularly from the laboratory standpoint. I think Dr. Brennan gave a splendid version of the practical points in his discussion. I was particularly interested in the emphasis he placed upon prevention, upon the environment of the worker, and the point that one should not wait for intoxication of the worker before making his diagnosis. Personally, I got a lot of information from his paper that I am sure I wouldn't have gotten if I had listened to one who hadn't his actual experience with the background of theoretical paper. I think it is an excellent paper.

Dr. C. O. Sappington, Chicago: I think Dr. Brennan has given us a very excellent paper. I have known Dr. Brennan for some time and have known something of his extensive experience. He has certainly epitomized and summarized this subject in his paper very well this morning.

I would like to emphasize two points that he made and, if I can, add a thought to each one. The first point is regarding the education or rather giving information to the worker. I don't like the word "education" with regard to industrial workers because a good many of them don't like to be educated. They think it is a painful process to learn. So, giving information to the worker is the expression I would rather use. I think that is a very vital point. How can we expect cooperation on the part of the worker in methods of protection if he doesn't know and appreciate something at least of the hazards to which he is exposed? I would be willing to go so far as to say that you can not expect ever to achieve protection in industrial work until you have informed the worker as to the type of hazard to which he is exposed and, therefore, gain his cooperation through his knowledge of his industrial exposure in the protection of him against the poisons and the various other industrial hazards.

The second point I wish to emphasize is this, that prevention in industrial diseases is very much more important than cure for this reason: There are a number of industrial diseases for which there is no adequate cure. Therefore, prevention becomes of very much greater importance in those diseases than treatment. I refer particularly to silicosis which, of course,

is shaking the country from stem to stern. There is no adequate cure now known. I also have in mind lead poisoning because lead is usually stored in the body over long periods of time after being once absorbed. The lead is probably set free from the bones where it is ordinarily stored and these periods are called "toxic episodes" by Aub and his co-workers. In addition, acidosis and any acute infectious disease can cause the setting free of lead into the blood stream and a repetition of acute lead poisoning symptoms. There is a great group of industrial dermatitides. One skin specialist in this country, who is a very noted man, said at one time that our patients never die and they never get well, and that is just as characteristic of industrial dermatitis. It is a very difficult thing to do anything with in most instances after it has occurred. Therefore, prevention becomes of great importance in these conditions in the industry or those which contribute mainly, statistically speaking, to industrial illness occurrence, silicosis, lead poisoning and dermatitis. It is important that we develop, together with engineers, chemists and others, methods which will prevent this type of difficulty rather than relying upon therapeutic measures.

Dr. Brennan, is closing: I want to thank the discussants for the way they received the paper.

Regarding Dr. Sappington's remarks about, once leaded, always leaded the rest of your life and that the toxic episode will happen at any time, I have read Aub's work and I appreciate it. I think the emphasis on recurrent toxic episodes years after exposure ceases, is drawn more from the theoretical possibilities rather than the actual clinical occurrences. I know a few authentic cases have been reported of acute toxic symptoms of lead poisoning, without any history of lead absorption as far as was known, except exposure dating back some nine or fifteen years. Also there are a few cases in the foreign literature of women who left the lead industry and some eight, ten or twelve years later have had acute attacks of lead poisoning, which was attributed to stored lead over that period of time. There is a question in my mind whether there is not some other source of lead that is not ascertained, or at least these individuals have some peculiar make up and are of rare occurrences. Stored lead as such is supposed to be practically harmless as far as it is possible to determine, and after exposure ceases, the concentration in the bones is reduced to a minimum. I have had many men in my community who have worked in these industries, and have been leaded, and men who have worked in them as long as twenty-one years. They all know me. In Illinois, lead poisoning is the principal occupational disease under the compensation act. I have never had a recurrent case of lead poisoning after it left my care. I have had cases with recurrent attacks when under my care. They have acute attacks today, start to improve, four or five days they start all over again, or may go along for a week or two very nicely and then become acute again. The effects of metabolic changes are very definitely demonstrated clinically.

We have always had trouble following the Christmas



holidays. In fact, we let both plants slow down before Christmas and wait until after New Years to resume normal operations. It may be from imbibing the Christmas spirit or changes in diet during this period of time. We always have some acute cases around election time or other times when there are celebrations. Also with men who have family troubles, whose wives leave them and they are "batching," trying to get along with their own particular cooking. All those little things affect the men absorbing lead close to their tolerance. We have had another period along about the end of May until about the middle of July, when cases were more frequent. Those were the peaks for cases of lead poisoning, namely Christmas time and along about the beginning of summer. I never could figure the June and July phase. I don't know whether it is a change in diet coming on with warm weather, and a lot of green vegetables and fruits, or the effect of sun rays stirring up dormant lead. I have had one case of encapsulated lead in muscles liberated by x-rays, in my opinion. During these two periods for quite a number of years we had a definite increase, in cases of acute lead intoxications. I am sure if any of these men developed recurrent attacks after they left the industry, they would come to me or at least they would go to the company for medical care or compensation, because they know what these attacks are; the men who work in this industry know exactly what the clinical picture of lead poisoning is; in fact, they know it too well. I see some of them every day; some are my own private patients. I treat some of them in other industries. I see them in the hospital as other doctor's patients. I question them as to their health and feelings and they always talk to me about the time they had the belly ache, etc., and how good and strong they are, etc.

As I say, I cannot agree with the literature on the serious after effects and the serious ill effects of chronic absorption. I will admit a great deal, but I think the picture is absolutely over-drawn in many instances.

## DISSECTION OF TONSILS AND TONSIL STUMPS\*

ILLUSTRATED BY MOVING PICTURES ON THE  
CADAVER AND LIVING

R. H. GOOD, M. D.

CHICAGO

The frequency of tonsil stumps following so-called tonsillectomies is a subject of the greatest import today.

Otolaryngologists should give much time and study to this subject as it is one of the most over-looked fields in medicine.

The writer does not elaborate in this article on the symptoms and constitutional disturbances

of tonsil stumps nor how the symptoms differ from tonsil infections, but rather dwells on the importance of removing tonsils completely and when operating on stumps to first find the capsule of the stump and remove the capsule with it.

Dr. J. P. Clark examined 143 patients who had had so-called tonsillectomies and found 59 of this number had tonsil stumps.

Dr. P. S. Rhoads examined several hundred nurses entering training in the Presbyterian and Cook County Hospitals who had had tonsil operations and found that 73% had tonsil stumps. In one year he also found 23 cases that had definite indications for operating on the stumps and all 23 were relieved of their symptoms after removal of the stumps.

Caylor and Dick investigated the bacterial content in tonsils and tonsil stumps and found a greater number, in proportion to weight of the tissue, in tonsil stumps. Furthermore, they found that fibrous tonsils and scar-covered crypt tonsils more responsible in causing arthritis, neuritis and endocarditis than other tonsils. W. W. Machlachlan has frequently found fibrous and scarred tonsils in patients with rheumatic fever.

Rhoads and Dick quote, "It is shown by our work that tonsillectomy as usually done, even by specialists of established reputation, fails to accomplish this end in 73% of cases because of incomplete removal of infected tonsil tissue. There is even indication that in many instances the condition resulting from incomplete tonsillectomy is worse than that existing before operation. The complete removal of all tonsillar tissue is necessary when the operation of tonsillectomy is undertaken."

I wish to emphasize the importance of reading the article written by P. S. Rhoads and G. F. Dick on the efficacy of tonsillectomy for the removal of focal infections, *Journal A. M. A.*, 1928. This article should be read and digested by every physician.

The diagnosis of tonsil stumps is difficult and if we depend upon appearance only we will miss many stumps. I have had many cases who were examined by physicians and specialists who failed to diagnose a tonsil stump.

When a patient has symptoms of focal infection which cannot be located in any other part of the body and the patient has had his tonsils operated on, it is our duty to examine carefully for tonsil stumps. The only way of knowing

\*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, May 17, 1933, Peoria.

positively whether there is a tonsil stump is to cocaine the throat, then with a strong forceps grab the tissue between the pillars and pull firmly. If a lump appears like a ball, beyond the forceps, there is a stump.

It is these buried or covered stumps that are many times more serious as foci of infection than the original tonsil.

When one is examining for tonsil stumps one must look for fistulas in the pillars and at the base of the tonsils. Care must be taken to look for hyperemic areas on the pillars, which are caused by infected stumps. One thing can be depended upon and that is if scar tissue can be seen between the anterior and posterior pillars or in the palate, there is usually a tonsil stump back of this scar. I have never seen this to fail.

On examination one may at times find blebs on the pillars, often of considerable size, and I have come to the conclusion that some of these blebs are not always mucous blebs but membrane growing over a fistulous opening which forms during the quiescence of the tonsil stump infection.

The diagnosis of quinsy from tonsil stumps is frequently overlooked because the scar tissue prevents the abscess from making its typical picture.

The writer has operated on hundreds of tonsil stumps and has frequently found an abscess in the stump and still more frequently a non-inflammatory peritonsillar abscess beyond the capsule of the stump. These abscesses cannot be easily diagnosed before the operation and with the ordinary method of operation they will not be reached. It is necessary to first find the capsule of the stump and then to dissect it all the way down and remove it with the stump, if one wants to be sure of a complete removal.

Dr. B. H. Orndoff and I sectioned four hundred tonsils many years ago and we found mucous glands in the tonsils along the trabeculae and some external even to the capsule. We found ducts leading from these glands to the crypt epithelial but did not find any ducts emptying directly into the crypt. Dr. Orndoff thinks that the mucus empties into the crypts through the stomata of the crypt epithelial cells.

It has been my observation for years that a quinsy is always preceded by a follicular tonsillitis or some other acute or chronic inflammation of the tonsil.

From our study it can easily be seen how an infection in the crypt can travel through the cryptic epithelial into the ducts to the mucous gland and produce an abscess which becomes a peritonsillar abscess by the pus breaking through the capsule, or if a gland external to the capsule is abscessed it is already peritonsillar.

The reason why a tonsil stump may be more serious as a focus of infection is because when the cut surface heals it frequently closes a crypt with scar tissue or membrane, thus making it a blind pocket, and it has no way of draining except by absorption or fistula formation.

There is hardly a week goes by but that a patient consulting us will state that their family physician said that septum and sinus operations are not successful but they never say that about tonsils because they do their tonsils themselves. I will frankly state, without reservation, that if our nose and sinus operations were not more successful than the general run of tonsil operations today, I would close my office.

If any of my patients consult any of you and I have left in a piece of tonsil, I do not ask that you protect me but rather that you protect the patient by removing the stump. Do not, however, expect to remove the stump with a forceps and snare without first finding the capsule and then dissecting the capsule all the way down. Neither take a sharp knife and remove a piece of the stump, such as was done twice on my tonsils, as it will not remove the entire stump.

The improvement in the health of patients after enucleation of tonsil stumps is much more pronounced than in tonsillectomies. The alarming question is why we have such a high percentage of tonsil stumps? The answer is quite simple. We have devised all manner of implements to remove tonsils instead of dissection because of poor operating lights.

Does a surgeon amputate a finger or toe with a guillotine? Does he remove lymph glands with a snare or gall bladders and prostates with instruments that do his thinking for him?

If the tonsil were located on the outside of the neck, with the same anatomy, would we have devised such instruments as the tonsillotome, the Sluder, the Beck, the vacuum cup, the La Force or the French punch? The tonsil is as accessible as many other structures in the body for dissection.

The answer to all these questions is inadequate illumination to properly see what is being done.



All these inventors of the above mentioned mechanical devices used the ordinary head mirror for light, or, what is still worse, a light on the forehead which is far above the eyes. This illumination is inadequate for complete dissection of the tonsils.

If all Otolaryngologists had used parallel-ray head lights such as were used by Kierstein, Kilian and Freer, none of these instruments would ever have been invented. The general physician can use the Sluder and the Beck just as well as the specialist, for both usually leave a piece of tonsil behind. If we specialists cannot do better work than those who are not specialists it is only right that we should lose our business. Nothing can harm an operator more than to have other physicians find that he has left stumps. Patients will not return.

Dr. Robert H. Fowler and Dr. T. W. Todd wrote an excellent article on the tonsil in the *A. M. A. Journal* in May, 1928, which to my mind has been the most instructive and valuable work for years. They describe the tonsillo-pharyngus muscle which is attached to the tonsil between the upper and the lower lobes. They stress the point that if this ligament is not cut through before the snare is applied, the lower lobe of the tonsil will be left in. We wish to emphasize the fact that this muscle or ligament is a broad band completely separating the spaces between the tonsil and the pharyngeal muscles into an upper and lower space which we have named supra- and infra-tonsillo-pharyngus fossae. A peritonsillar abscess forms in either the upper space or the lower space. When one dissects a tonsil down to this muscle, only a little over half of the tonsil is dissected and to put a snare on at this time will often remove only the upper lobe.

Many tonsil operators have never dissected a tonsil on the cadaver and yet think they know when they have all the tonsil removed. Our specialty, as far as tonsil operations are concerned, has practically dwindled to removing tonsil stumps. Unless we learn to dissect stumps with the capsules intact we will also lose this field of work.

Many doctors who use the Beck or Sluder know they leave a stump but relieve their consciences by grabbing the stump with a forceps and throwing a snare around it, thus again allowing the snare to do the thinking for them. This does not remove the stump completely. The

only way to remove a stump is to find the capsule and dissect the stump with its capsule.

I have had my tonsils operated on four times. Once by Dr. E. F. Ingals with a tonsillotome. Twice by Dr. O. T. Freer who used sharp knives to cut pieces off. The last and fourth time by my former assistant, Dr. Louis Schultz, who dissected the stumps with their capsules. Not until then was I relieved of repeated attacks of sore throats and rheumatic symptoms.

Dr. Sluder invited me to come to his clinic in St. Louis to operate on tonsils. We operated on five cases in children. Gas anesthesia was used and the gas was not continued after the operation started. I removed the right tonsil by dissection and he removed the left with his guillotine. After we had finished the five cases we laid the tonsils out for examination. Dr. Sluder put his arm around my shoulder and said, "Dr. Good, never take up my operation as your dissection is better than my operation." I have used the Sluder about 700 times and I can verify that his advice to me was correct.

There are many satisfactory ways for dissecting a tonsil but we have made a movie of a method which has proved very satisfactory in our hands. A brief description of the operation is as follows:

The author's tonsil forceps (Figure 1) is powerful,



Fig. 1. Author's tonsil forceps.

due to the short shank. This forceps is introduced closed between the anterior and posterior pillars at the highest point. It is held at almost right angles to the surface of the tonsil. The forceps is now opened about one half inch and pushed out and forward against the ascending ramus of the jaw and then closed. The upper lobe of the tonsil is pulled out of its socket. This method of grasping the tonsil takes hold of the capsule and prevents the forceps pulling out in fragile tonsils.

With a curved beaked knife (Figure 2) an incision is made through the anterior pillar near the tonsil margin but not at the margin and continued around the upper pole and along the posterior pillar. The capsule which is now exposed is dissected free from the pharyn-



geal areolar connective tissue down to the tonsillo-pharyngeus muscle.

A new hold is now taken with the tonsil forceps, the grasp being just at the tonsillo pharyngeus muscle, which enables us to pull out the lower lobe after this muscle is cut with scissors. The author's tonsil scissors

been a good paralal-ray light but not as bright as it should be. The Good-Lite is fifteen times brighter and throws 1000 lumens of light.

Space will permit describing only a few of the many cases with tonsil stumps:



Fig. 2. Author's tonsil knife.

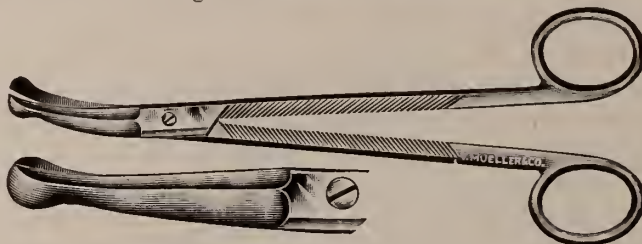


Fig. 3. Boetcher-Good scissors.

(Figure 3) now cuts the muscle and one is surprised to find that the scissors can now drop into a deep cavity opposite the lower lobe.

With closed scissors the lower lobe is dissected. The tonsil knife must frequently be used to complete the dissection of the lower lobe. Robertson's pillar knife is often employed to dissect the pillars all the way down.

The snare wire is now looped over the tonsil with the tip of the snare held below the base of the tonsil. As the snare is contracted the point of the snare is pushed down and outward and the tonsil pulled up and in with the forceps.

If the snare is applied as described in books it is very apt to engage at the depression between the two lobes where the tonsillo-pharyngeus muscle is attached and leave the lower lobe behind. Part B of the movie on the cadaver illustrates this error of the snare and the dissection of the stump proved the stump to be as large in size as the upper lobe.

Another important point is that the uvula can never be caught by using the snare as illustrated above.

I had a minister from Kankakee, Illinois, who had seven children. All had had their tonsils removed by the same general surgeon. Four of the seven consulted me for other troubles and all of those four had had their uvulas amputated.

My plea and purpose of this article is to have Otolaryngologists come back to the dissection method and have every step in the operation under control of the eye. To do this one must have an operating light with parallel rays of light in direct line with the eyes. This often eliminates the use of tongue depressors as one can see clearly through a small field and the tonsil forceps is usually all the depressor necessary.

The Kierstein head-light for thirty years has

Case 1. Miss K., aged 26 years, referred to me by Dr. Helm. This patient had consulted Dr. Tice and Dr. Ticken who both advised that she go southwest for her health. These were no findings of tuberculosis but on account of her weakened condition they thought the climate there would help her to recuperate. She had lost fifteen pounds in weight and was unable to continue her stenographic work. She had a throat cough and pains which radiated to her ear and down the neck.

On examination I found a fistula in the anterior pillar on the left side of her throat which had a red granular margin. It measured about 3 mm by 1 mm. There was considerable scar tissue between the pillars from a former tonsillectomy. A distinct stump could not be seen but knowing that stumps are always found behind scar tissue. I enucleated the stump. In a month she was perfectly well, had regained her appetite and weight and has been back at her position ever since.

Case 2. Mrs. H., aged 55 years, the wife of a prominent surgeon in Chicago. This patient consulted me on account of arthritis, having painful joints of about six weeks duration.

On examination I found tonsil stumps on both sides, large but submerged and covered with scar tissue in two places. The tonsils were hyperemic. Rheumatism had followed an acute sore throat two weeks before the onset of acute arthritis. These tonsils had been amputated twenty years prior to her consulting me, but not finding any other focus of infection I advised enucleation of the stumps. One month after the operation all symptoms of the rheumatism had vanished.

Case 3. Mrs. M., aged 35 years, had had her tonsils clipped by a surgeon but continued having sore throats and radiating pains as well as muscular pains. She was not able to do her house work and had lost considerable weight. Her surgeon could not see a stump but referred her to a specialist who was unable to see any stump. She finally consulted me.

On examination I found a large mass at the base of the tonsil fossa covered by the anterior pillar. This area was injected and there was a small fistula in the

anterior pillar near the tongue. I invited the surgeon to witness the operation as he thought there was no tonsil. I found the capsule of the stump and enucleated it. It measured 12 mm by 20 mm and it was evident that the entire lower lobe of the tonsil had been left in. The surgeon stood in astonishment. He carried the tonsil to the window for examination, evidently thinking I must have removed the liver.

Case 4. Mr. W., aged 30 years, called me to the Arms Hotel. He complained of not feeling well and having a slight disturbance in swallowing with loss of appetite and general apathy. He was up and about with no temperature but had not felt well for two months.

On examination of the throat I saw a large scar in the palate above the pillars and involving the pillars as well. No stump could be seen but the palate had a hardened feeling, even more so than a stump would feel behind the scar tissue. Knowing there is always tonsil tissue behind a scar I advised operating. He replied that he had had his tonsils removed but I assured him that there was still a very large tonsil there so I operated. As soon as I exposed the capsule and dissected it for about an inch, I came into a walled-in abscess with very thick creamy pus. This was a quiescent peritonsillar abscess. The entire tonsil stump when enucleated measured 30 mm by 15 mm. His recovery was uneventful.

Case 5. Miss B., a nurse in training, was confined to bed for six weeks with acute arthritic rheumatism. She had been seen by no less than fifteen physicians of the staff without finding the focus of infection. The superintendent of nurses finally called me in.

On examination of the throat no tonsil stump could be seen but there was a marked redness of the anterior pillar where it joins the tongue. On careful examination a small fistula was seen in the anterior pillar. On account of the fistula I knew there was a tonsil stump at the base of the tonsil fossa and I advised operating. By finding the capsule and enucleating the stump I removed a mass of tonsil. It was a little more than half of the lower lobe of the tonsil. She made an uneventful recovery.

Case 6. Mrs. P., aged 30 years, referred to me by Dr. Anderson. On examination I found a large scar in the region of the upper lobe of the tonsil, involving the anterior pillar. Between the pillars could be seen tonsil tissue without scar formation. Her health was poor, she had lost weight and appetite as well. Her tonsils had been clipped seven years before and since then she had had four attacks of peritonsillar abscess and many sore throats.

I removed this stump with great difficulty on account of the large scar. The mass was the full length of the tonsil and about 12 mm wide.

Case 7. Myself. While doing work in the Lying in Hospital I contracted acute follicular tonsillitis followed by acute inflammatory rheumatism. After recovery Dr. E. Fletcher Ingals clipped off my tonsils with a tonsilotome. I continued having frequent attacks of sore

throats and rheumatic symptoms. Dr. Otto T. Freer cut off a piece of tonsil from each stump with a sharp knife. My sore throats continued so I went back to Dr. Freer and took my tonsil forceps with me. He examined my throat and said there were no tonsil stumps so I kindly asked him to cocaineize my throat. Then I asked him to take the forceps and grab the tissue between the pillars and pull, which he did and he replied, "My God, Good, you have got stumps." Then he proceeded to cut another piece from each stump. My sore throats appeared regularly thereafter for four years and I was not relieved until Dr. Louis Schultz, my assistant at the Chicago College of Medicine and Surgery, dissected the stumps with their capsules.

We could enumerate many similar cases with equally good results so that we should know that if tonsils need removing they should be dissected with their capsules, leaving no tonsil tissue. Unless this is done in the future I would advise much more conservatism in tonsil operations.

#### SUMMARY

1. The great majority of all tonsillectomies leave tonsil stumps.
2. A diseased tonsil stump is more pathologic because crypts become covered with scar tissue.
3. The improvement in health after enucleation of tonsil stumps is more pronounced than in tonsillectomy.
4. Unless the capsule is removed with the stump the patient may not be relieved of symptoms.
5. The only way to remove a stump completely is to find the capsule and dissect it with the stump.
6. When a patient has symptoms of focal infection which cannot be located in any other part of the body and the patient has had a tonsillectomy, it is time to examine for stumps.
7. Fistulae and hyperemic areas on pillars or base of tonsil fossa are frequently due to buried tonsil stumps.
8. Scar tissue between pillars or in the palate nearly always means that there is tonsil tissue back of it.
9. The tissue between the pillars or behind the scar tissue must be grasped and pulled out to make a positive diagnosis.
10. Peritonsillar abscess occurs more frequently with tonsil stumps and is more difficult to diagnose.
11. For dissection a parallel-ray operating light is necessary.



## DISCUSSION

Dr. Louis Schultz, Chicago: Being in full accord with the essayist, I find it difficult to discuss his paper. For a discussion usually brings out viewpoints differing with those expressed, hence my handicap, since I have been following the author's technic for years with very satisfactory results.

A complete extirpation of tonsils often yields most brilliant and lasting results. But this statement can be appreciated only after a real tonsillectomy or after remaining stumps left from a previous operation, "tonsils which have grown again," have been completely enucleated.

That temporary improvement is sometimes recorded by the patient after a partial tonsillectomy is a fact, but this is often followed by an aggravation of the primary symptoms.

The article by Fowler and Todd, mentioned by the essayist, not only impressed me on reading it, but changed some of the anatomic conceptions I had with reference to the tonsils and their relation to the surrounding structures. Following the general teaching, I, too, thought in terms of a capsule forming the bed for these glands in the tonsillar recess. But, as Fowler and Todd pointed out, one would not expect to find a muscle ending in a capsule. Yet this is a fact. Some fibers from the palato-pharyngeus do end between the upper and lower lobes of the tonsil; but instead of ending in a capsule these fibers end in the sheath of the muscle mentioned, a sheath composed of loose areolar tissue, hence providing easy injection and easy dissection of the upper lobe of the tonsil. These authors also show that the superior constrictor does not enter into direct relationship with the glands under discussion, for the palato-pharyngeus with its sheath forms the bed with the exception perhaps of that small portion where the palato-glossus lies in relation.

A point I wish to emphasize in connection with the dissection of the lower lobe is that, if possible, more care should be exercised than in the dissection of the upper lobe, for the palato-pharyngeus is thinner below the so-called tonsillo-pharyngeus than above and so is its sheath thinner, also the glosso-pharyngeal nerve lies in close relationship.

An outstanding point made by the essayist, which I, too, wish to emphasize, is the importance of good illumination when doing a tonsillectomy; since the same principles applying to general surgery apply here. No doubt we all appreciate that blind surgery is not the ideal type. I am of the opinion that the poor results we often find in tonsil as well as nose operations are due to poor illumination, and up to the time that Dr. Palmer Good perfected his light, good and safe illumination, in the nose at least, was practically impossible. I still have my Killian light, a relic of bygone days; yet in those days I wanted a light, the rays of which are parallel with the line of vision. Such a light, once adjusted, remains so, thus adding to the ease of the operator and to the safety of the patient from the standpoint of contaminating one's hands during

the operation. The use of this light has rendered my work easier and I conscientiously believe that I am giving my patients better service.

Finally I used to do tonsillectomies, if under local anesthesia and if the weather was fair, by direct daylight by seating the patient close to and facing the window. I am not using this method any more, because, with this light, it is so much more simple to operate than by any other method I know of. In conclusion I wish again to place emphasis on the fact that good illumination is as essential in the enucleation of tonsils as it is in doing of any other good surgery.

Dr. Austin A. Hayden, Chicago: I can agree, I am sorry to say, with only a very small amount of the material that Dr. Good has presented. I am thoroughly in accord with his emphatic statement that a successful tonsillectomy consists in removing all of the tonsil and leaving all the throat provided complete hemostasis is secured.

Spraying the entire throat with cocaine solution is dangerous—from absorption as well as swallowing. I agree thoroughly with Dr. Good in his statement regarding the high percentage of tonsil stumps remaining after operation. If cases were kept under observation longer immediately after operation, much if not all of the fault could be avoided by removal of remnants that escaped detection at the time of operation. Statements regarding stumps must be made most cautiously if the original operator is to be spared the possibility of legal action. The patient is entitled, on the other hand, to an honest opinion as to whether or not the tonsils were removed.

Dr. R. H. Good, Chicago (in answer to questions from various parts of the room):

Question: What percentage of adrenalin is used?

Dr. Good: Eight drops to the ounce fresh adrenalin for injections.

Question: What strength is used on tampons?

Dr. Good: Five per cent. for spray. I am opposed to tampons.

Comment: I have used cocaine in adrenalin 1:1000, for thirty years.

Dr. G. S. Duntley, Macomb: I have used 2 per cent. mercurochrome in the tonsil fossa with pleasing results, and the next day I have observed an exudate more firm and fibrous than with anything else I have used. Iodine on account of the alcohol has seemed to me to increase the post-operative hemorrhage and I have discontinued its use and have used mercurochrome with very satisfactory results.

Dr. R. H. Good, Chicago: I thank Dr. Schultz and Dr. Hayden for their discussions. Dr. Schultz has been my assistant for nine years and has always used the parallel ray operating lamp. He uses it for his cleft palate work and it is wonderful for this field.

Dr. Hayden says that a cocaine spray is very dangerous. I have used a cocaine spray in the throat over five thousand times and have never had appreciable toxic effects. I have used cocaine mud in adrenalin 1:1000 in the nose for thirty years, and then the



Committee on Local Anesthesia came out with their report that it was a dangerous practice to use cocaine mud for application. My experience does not tally with the report of the Committee. If I had had any deaths I would be willing to accept their advice. I want to say frankly that if any of my patients come to the office of any of you and you find a tonsil stump, I do not ask you to protect me, but protect the patient. If he has a stump, tell him, and remove it, but do not try to remove it unless you find the capsule of the stump.

Now about the head mirror: Dr. Hayden speaks about the head mirror having a focus at a certain point. Some have the point at 8 inches, some are 10 inches and some are otherwise. They all have a focus. When you are operating in the throat, your reflecting light has to be here, your patient is here, and you are here (indicating) but if your patient turns his head or you have to change your position or a nurse is holding the light, as it used to be years ago, and when one intern came in the light went up, if another intern came in it went still higher, and all the time you are fiddling around in that throat, with uncertain illumination.

Dr. Hayden has never used the light. I have preached to my son for ten years that specialists need more and better light. Even a poor operator can operate much better if he can see. The head light that my son has devised throws parallel rays, every bit of this beam of light is focused for any part of the operating field, and that is better than a beam of light focused on one spot as you have with the head mirror. For the nose, for instance, with your head mirror you can see very well at the focal point but beyond that point no light goes except as reflected from the tissue in the nose. But with this light it is different. The beam goes straight back as far as you want to go, and your sight for operating is perfect anywhere, so long as you have a space in the nose to see through. The eye is exactly in the center of the straight beam of light and is focused everywhere and you can operate on any part of your field as well or better than just in the focal point of the head mirror.

Dr. Ingals used to say that the proof of the pudding is in the eating. If Dr. Hayden once used this light he would find it makes his operating on nose and throat much easier. When you want to do intranasal work on the frontal sinus, the tear sac or the sphenoid, you want to be able to see.

As to scar tissue, I want to make this emphatic. Lymphatic tissue heals with scar tissue, muscle tissue much less so. Dr. Hayden said when the posterior pillar is cut you have scar tissue. You do have scar tissue, but it is limited to the posterior pillar. But when you have scar tissue from a stump you have scar between the pillars, or a scar here, and sometimes you find the scar extending up onto the palate. I have never yet seen a case without a stump back of that scar. I can only speak from experience. If you

take hold of any of these scars between the pillars or on the palate and pull that scar out, you will find a ball of stump behind it. I have had cases that physicians have looked over and specialists have looked over, and they could not find any stump with any kind of light because that stump was buried or it was behind the scar or anterior pillar. The only thing to do is to cocaine the throat and grasp the scar tissue and pull.

Another thing you may see in a patient who comes to the office is a bleb formation on the anterior pillars, blebs as large as 2 or 3 pin heads. Watch carefully to see if there is not a fistula underneath that. A patient came to my office several months ago with blebs the size of 3 or 4 pinheads, and she said that whenever the bleb is there she had rheumatism in the right leg, and when the bleb breaks open the rheumatism disappears.

So I want to bring home the importance of the tonsil stump. We have patients coming every day who may have them, and we do not look for these stumps because the patients say they have had the tonsils removed.

Dr. Austin A. Hayden, Chicago: Dr. Good made the remark that he knows nothing about the head mirror. I have suspected that for a long time, but never had his own statement to that effect. I have been going to use Dr. Good's head light for some time, but I have not got around to using it, largely because the current is D. C. But since they are now able to use them with any current, I am going to avail myself of his generosity, and am going to emphasize his generosity in this time of depression. I am making a counter proposition, however, that he familiarize himself with the ordinary head mirror at the same time.

Dr. R. H. Good, Chicago: Dr. Hayden misunderstood me. I have never used the head mirror for operating. I have used it in the office, but never for operating, because in my opinion, it was not any good for that.

Dr. Austin Hayden, Chicago: Dr. Good's experience with cocaine is of course at variance with the report of the Committee of the American Medical Association, as he said. It seems that their findings were very different, and that the work they did was extremely valuable.

Dr. R. H. Good, Chicago (closing): This Committee obtained the reports from all over the country, and the Lord only knows how cocaine and adrenalin was used throughout the country. I never use cocaine separately, I use it in adrenalin, and I simply make two applications to the surface I want to anesthetize, waiting two or three minutes before the second application. I think that if you apply cocaine just by putting it on, instead of packing the nose, you secure the result you want without ill effects. I have not had any occasion to go back on this method. I have to go by my experience, and I would not substitute anything else until I find I am wrong.

## IS HAY FEVER A PUBLIC HEALTH PROBLEM?\*

TELL NELSON, M. D., M. S.

Department of Medicine, University of Illinois,  
College of Medicine  
CHICAGO, ILL.

Hay fever as a public health problem is of vital importance, but is seldom discussed. It is the purpose of this paper to point out some of the outstanding facts about pollen and its relationship to clinically sensitive individuals and to show that this problem is one which should interest the Public Health Officer.

*Some Characteristics of Pollen.* It has been indisputably established that pollen is the causative agent of hay fever. Pollen may be defined as the fine, dust like, powdery material developed within the flowers of seed bearing plants (angiosperms). The method of dispersing pollen is known as pollination, of which there are four recognized methods. The one which concerns us in this paper is that of wind pollination, where the transference of pollen from the anther sacs to the stigmatic surface of the pistil is dependent upon the wind. The outstanding characteristics of this method of pollination is the production of large quantities of buoyant pollen.

To illustrate the large amount of pollen which wind pollinated plants produce, we cite the following: Thommen<sup>1</sup> estimated that one short ragweed (*Ambrosia elatior*) plant produces approximately one million million pollen grains. Scheppegegrell<sup>2</sup> estimated that an average large bush (3 feet 10 inches) of the bastard feverfew (*Parthenium hysterophorus*) generated approximately 227,000,000 pollen grains per day. The same author estimated that a giant ragweed (*Ambrosia trifida*) was capable of producing eight billion pollen grains in five hours, and that a field of grass during its active stage of pollination, produced about eight million pollen grains per square foot of surface.

Koessler and Durham<sup>3</sup> in 1925, in a pollen survey of Chicago, estimated that a city block of ragweeds, about 1/10th acre, produced 100 ounces of pollen per season, or 60 pounds to the acre. They believe that the actual production of pollen is often greater than this, and conclude that hundreds of tons of ragweed pol-

len are suspended in the air over Chicago in a single day during the height of the season.

The second characteristic of wind carried pollen is its great buoyancy. This has been demonstrated repeatedly by various observers. It has been definitely established that the ragweeds and many other wind pollinated plants pollinate from sunrise to about 10 A. M. During this time, there is usually a rising temperature, creating convection currents upward, which carries large quantities of pollen into the higher strata of air. Here the pollen may float for long periods of time and for long distances.

As an illustration of its great buoyancy we cite the following: Hesselman<sup>4</sup> exposed prepared petri dishes on lightships, and collected 395 pollen grains per square inch per day at 18.6 miles from shore, and 215 pollen grains per square inch per day at 34.1 miles. Several years ago, in our routine exposure of pollen slides, we observed elm pollen, fully two weeks before this tree bloomed in our locality. Investigation brought out the fact that this tree was in bloom about 200 miles south of Chicago, and the pollen had been carried for that distance, probably in the upper strata of air, and been precipitated by cooler air currents in our locality.

Pollen showers out of season, have been recorded, which can only be explained by the great buoyancy of pollen. Riley<sup>5</sup> reported that in St. Louis in March 1873, during a thunder storm, a certain section of ground was sufficiently covered with pollen to give the appearance as though it were sprinkled with sulphur. This was a tree pollen, then pollinating in the south, and which had been carried over 400 miles.

Many studies have been made on the altitude at which pollen may be found. Grass pollen has been gathered as high as 17,000 feet. In many of these observations, the amounts of grass and ragweed pollen collected between 4,000 and 6,000 feet was greater than nearer the surface.

*Pollen Seasons and Distribution.* Hay fever can be grouped roughly into three seasons: 1 spring, due primarily to the pollen of trees, and extending from April to June; 2, summer, with the grass pollen as the principal cause, extending from early June to the latter part of July; and 3, the fall season, due to the pollen of weeds, and extending from the middle of August to frost. There is a certain amount of over-

\*Read before the Section on Public Health Hygiene, Illinois State Medical Society, Peoria, May 17, 1933.



lapping of the seasons, and the onset and extent of the seasons vary somewhat in different localities.

As regards the toxicity of the various pollens, it is most fortunate that trees which produce great amounts of pollen, with very few exceptions are relatively innocuous. The most toxic of the trees is the mountain cedar, found in Central Texas, and pollinating in December and January. This is, however, only of local importance. Clinically, sensitivity to tree pollens accounts for less than 2 per cent. of the total number of cases of hay fever. The trees which are of greatest importance in Illinois are, maple, elm, oak, and cottonwood.

The pollens of the grasses are more toxic than those of trees, and approximately 20 per cent. of our cases fall into this group. The chief offenders in this group in the middle west are timothy, red top, june grass, and orchard grass. These forage grasses can be classed agriculturally into meadow grass, including timothy and orchard grass, and pasture grass, represented by june grass and red top. In the middle west timothy is cultivated extensively for hay, because of its ease of adaptability to various soils and climates, its abundance of seed production and low cost. Orchard grass makes a good hay, but it is not as easily adaptable as timothy. There are approximately one million acres of the latter under cultivation in the middle west. June grass along with red top, makes ideal pasture grass and is extensively used in lawn mixtures. When used in lawns it is usually not permitted to pollinate until late in the fall and may account for some symptoms at that time.

The relative ability of grasses to produce pollen is less than that of the ragweeds, and their pollinating season is shorter.

The pollens of the fall group are by far of greatest importance as toxic agents in the production of hay fever. In this group are the ragweeds, short (*Ambrosia elatior*) and giant (*Ambrosia trifida*), the chenopods, ivas and the amaranths. About 80 per cent. of hay fever sufferers react clinically to this group.

The distribution of these noxious weeds is of interest. Durham<sup>6</sup> has conducted a national ragweed survey for the past four years, in which he shows very graphically the relative amounts of pollen produced in the various cities studied.

It is of interest to note that the maximum amount of ragweed pollen both as to highest peaks for various days, and as to total for the season, occurs in the Great Lakes region and middle west. The cities reporting the highest counts were Indianapolis, Buffalo, Omaha, and Kansas City. The Atlantic seaboard and the Pacific coast showed only a moderate amount, while Mexico and Canada have relatively low counts. Ragweed may be said to be universal in the United States, with only a few local exceptions. It is extremely toxic and apparently only small amounts are necessary to precipitate symptoms in a sensitive individual. Patients manifest symptoms on days when the concentration of ragweed pollens is as low as 25 pollen grains per cubic yard of air, measured by the gravity method.

With its wide distribution, its enormous production of buoyant pollen, the control of weeds from the standpoint of public health is of the greatest importance.

*Clinical Aspects.* There are several clinical facts which have a distinct bearing on hay fever as a public health problem.

1. Incidence. It has been variously estimated that from 1.5 per cent. to 4 per cent. of the population in this country suffer in some degree from hay fever. Based on a total population of 120,000,000, we have roughly between two and four million sufferers. As stated above better than three-quarters of this number react to the fall group. The number of cases have increased in the last decade. This increase is both apparent and real. The apparent increase is most likely due to greater knowledge about the condition among the laity as well as among physicians. The real increase is due to greater distribution of weeds in habitable areas. Ragweed seems to thrive most luxuriantly in areas where the ground has been turned or cultivated, and is to be found in abundance in and near habitable regions, roadsides, vacant city lots, subdivisions, etc. There has also been an increase in the exposure to the toxic effects of weeds, due to our increased facilities of transportation, chiefly the automobile. Certainly if one out of every thirty, suffer annually from hay fever, and the number is increasing, the problem is one which should interest the Public Health Officer.

2. Heredity. That heredity plays an important role in allergic disturbances cannot be dis-



puted. Spain and Cooke<sup>7</sup> showed a positive antecedent history in 58 per cent. of clinically hypersensitive individuals. Other authors are in general accord with these findings. It is interesting to note that in instances when there is a bilateral family history of allergy, the onset of symptoms was earlier than in cases with a unilateral family history.

3. Age of onset. In a review of 856 hay fever cases which we observed the last two years, it is interesting to note that 30 per cent. began under the age of 10; 23 per cent. from 10 to 20 years; 25 per cent. from 20 to 30 years; 16 per cent. from 30 to 40; 4 per cent. from 40 to 50; and 2 per cent. after 50 years of age. In other words 66 per cent. had their first symptoms under 25 years of age. These individuals begin their lives with a great handicap, one which, with the exception of very few, will last throughout life.

4. Asthma. Asthmatic seizures occurring with hay fever should be regarded as a distinct form of pollen sensitivity, rather than as a complication. Thommen<sup>1</sup> states that pollen asthma occurs in 35 per cent. of hay fever subjects in and around New York. In our survey in Chicago, we found 40 per cent. Some authors give higher figures. Asthma usually develops after several seasons of hay fever; at first terminating with the hay fever season. However, with succeeding years the tendency is to last longer and in many instances terminates in a perennial bronchial asthma, of varying severity.

5. Economic considerations. One can readily see, that patients who suffer annually for periods of from one to six months depending upon their sensitivity, from a condition which is as annoying as hay fever and pollen asthma, are not only a burden unto themselves but to their fellow men. Their personal efficiency is greatly reduced, they become as a rule irritable, and often disinterested in their daily affairs. Many are forced to give up positions and seek relief in pollen free resorts. Those that try to remain at their daily tasks, are often so hampered, that they are more of a liability than an asset to their employer. No estimate can be made of the financial loss annually due to this condition. Hay fever as regards morbidity is perhaps as great an economic problem, because of its annual recurrence, as any other single disease, exclusive of epidemics.

*The Prevention of Hay Fever.* In preventive medicine, no disease of serious importance has received so little attention as that of hay fever. It ranks as one of the most common of the non-fatal diseases, yet very little has been done in the removal of the cause. The first step is the education of the public in the responsibility of pollen of weeds as the causative factor. The identification of the various weeds and plants that may develop hay fever is of utmost importance, but this will follow the establishment of the etiology.

The education of the public to the relationship of noxious weeds and hay fever, will result in having such weeds considered from a new point of view. If the leverage of public opinion can be changed, legislation will be simplified. In a communication from Dr. Rupert Blue, then Surgeon-General of the U. S. Public Health Service to the American Hay Fever Prevention Association several years ago, this view was expressed as follows: "It appears that the most practical method of securing the cooperation of the public would be by education as to the effect of the presence of these weeds in communities from both health and economic standpoints."<sup>2</sup>

Destruction of weeds causing hay fever is not of as recent origin as the attempts to eradicate the causes of typhoid fever, malaria and many other diseases. Farming has been a necessity since time immemorial, and during all these years, weeds have contested the efforts of the farmer. The weeds which cause the greatest distress to hay fever subjects because of their adaptability to tilled soil, are among the most persistent enemies of the farmer and gardener.

So important is the subject of weeds and their extermination from the farmer's standpoint, that the various State Departments of Agriculture have devoted much time to this subject. The following excerpts from an article on weeds by H. R. Cox, Agriculturist of the office of Farm Management, presents the subject from the agricultural as well as the public health point of view.

"In a sense, farming might be called a warfare against weeds. . . . So powerful are weed enemies in reducing crop yields, while at the same time multiplying labor that the farmer should at every turn strengthen his position against them.

"The importance of keeping weeds in subjection cannot be emphasized too strongly. It has been shown in experiments with corn made by the Department of

Agriculture that weed eradication is the principal, if not the only beneficial result of cultivating this crop after planting. . . ."<sup>2</sup>

From an agricultural standpoint, the fight against weeds has been of so great importance that laws have been enacted to control them. In most instances, success has attended these efforts, and the weed stamped out.

Weed ordinances as they now stand are wholly inadequate to cope with the problem from a public health standpoint. In Illinois the statutes speak only of noxious weeds in their relationship to agriculture. Nothing is stated of their relationship to health. To quote from the Illinois statutes ch. 5, par. 83:

"Noxious weed seeds are defined as the seeds of buckhorn, field sorrel, Canada thistle, quack grass, docks, ox-eye daisy, dodders, wild mustard, Johnson grass and wild carrot,"

and further in ch. 18, par. 1,

"For the purpose of this act,—the term 'noxious weeds' shall include Canada thistle, and sow thistles."

Several town ordinances include Barberry as a noxious weed. The ordinance of the city of Evanston has a paragraph which touches upon the matter of noxious weeds as related to public health. It could well serve as a model for other ordinances along this line. To quote par. 1861,

"No owner, lessee, occupant or agent, servant or employee of such owner, lessee or occupant being in control of any lot, piece or parcel of land within the City of Evanston shall knowingly allow, permit or maintain on such lot, piece or parcel of land, any growth of poison ivy or other noxious weeds or plants, whereby the health of the public, or of any person, lawfully upon or passing by such lot, piece or parcel of land may be endangered."

Under such a provision weeds, such as ragweeds, which are of far greater importance to the health of the community than those now classed as noxious are to agriculture, could be eradicated by unified and concerted efforts on the part of local, state and federal authorities.

#### CONCLUSIONS

In conclusion let us state:

1. Pollen, the causative agent in hay fever and pollen asthma, because of its abundant production, its buoyancy and wide distribution is a distinct menace to public health.

2. Hay fever with its increasing incidence, its hereditary tendency, its appearance in childhood and youth, its usual persistence throughout life, its asthmatic phase and its economic loss, should be looked upon as a public health

problem.

3. To date the solution of this problem, has been in the hands of the medical profession with very little aid from other sources.

4. Valuable help can be given by the Public Health Officer in the education of the laity to the facts of the problem.

5. Eradication of hay fever producing weeds can only be accomplished by unified and concerted efforts of local, state and federal authorities.

636 Church Street, Evanston, Ill.

#### DISCUSSION

Dr. Ralph McReynolds, Quincy: Dr. Nelson has given us a very instructive and interesting paper on a most important subject. I think more good can come out of the suggestions that Dr. Nelson has made in this paper than probably any other paper that has been given to the Illinois State Medical Society at this meeting. The suggestions which he has made for results should not only be listened to but should be acted upon.

Dr. Nelson and I may disagree a little bit on one point; that is, regarding what he said about the automobile traffic, that we have more automobiles today, that the people get out more into the pollen, and that as a result they suffer a great deal more on that account. I believe they suffered just as much during the time when we had the old horse and buggy, because we didn't have the hard roads then, and we not only had a great deal of pollen but we had more actual dust to breathe when out upon these dusty roads than is the case today.

It may seem to be rather an insurmountable obstacle or a great task when we come to consider how sensitive many hay fever victims are to the pollen, the large amount of ragweed, the great amount of pollen that is cast off and the long distance which the pollen is carried. However, I believe that many hay fever victims can withstand a little or a moderate amount of pollen without having any great discomfort. In support of this belief, in the year 1930, which was a particularly dry season, if you remember, we had much less suffering from hay fever than we do ordinarily. Further, a number of years ago, when several of my friends and I were in Northern Michigan to get relief from hay fever, we noted repeatedly that we were practically free from hay fever symptoms at Petoskey but at Walloon Lake, a distance of only about seven miles, we were not. The point is that at Petoskey, while there is pollen there, it did not exceed our tolerance.

Very little has been done to solve the hay fever problem in a big way. I am fully cognizant of the great work that has been done by the allergists on desensitization, and the very fine work that Dr. Nelson and others have done in removing pollen from the air, but the great mass of people that are suffering have neither the time nor the money to take active treatment. Furthermore, those of you who have done any of this type



of work know that the majority of these people are not sufficiently cooperative. You have to be a super-salesman to get them to carry on this treatment year after year. When you have some three million people suffering for weeks, not to mention the complications and the economic side of it, it is high time we were actually doing something in a big way. And I certainly agree with Dr. Nelson when he says that the way to get at this problem is to properly educate the public and carry on a campaign similar to what has been done to eradicate or at least reduce many diseases like typhoid fever, smallpox, malaria, yellow fever, diphtheria and other diseases. I feel that public health officials are the ones best equipped to sponsor a campaign to eradicate noxious weeds which cause hay fever. Certainly we should have the cooperation and the assistance of the medical profession in general and particularly the allergists, and the patients themselves, to eradicate the chief offender, the ragweed.

Dr. I. D. Rawlings, Chicago: I would like to know if either the essayist or the discussant knows of any places that are absolutely pollen-free, or almost so, where hay fever victims can find relief. I would like to know of such places, if they are definitely known. I have been asked dozens of times during my years of service with the Chicago Board of Health where hay fever patients shall go to find relief and I never know exactly what to tell them. I don't know whether Petoskey is the best place or not. We used to think that it was, but I am not sure now that it is.

Dr. Nelson, in closing: I will answer Dr. Rawlings' question first. There are several places in the country that are pollen-free, as far as ragweed is concerned. There is only one large city in the country that has no ragweed and that is Seattle. However, some hundred miles up in the Rockies, for example, in and around Missoula, you are free from ragweed. In Colorado, there are places but you have to go way up into mining camps, high up, and those places are hardly fit for human beings to live in. There is where we have pollen-free areas. As far as Petoskey is concerned, and Mackinac Island, when the wind is from the South, they sneeze just as much in Mackinac as they do in Chicago. Pollen is carried over onto the island itself. They keep the ragweed pulled out on the island, and that is of course a favorite resort. In Canada; most of the pollen we find in the southern area of Canada,—and if you are interested, we have some graphs from Canada over at our exhibit,—is blown in from the United States. There is in Canada about sixty miles north of Port Arthur a valley in which the ragweed grows very luxuriantly, and you have to go north of that point, almost to the southern tip of Hudson Bay, to get away from ragweed pollen. Those are about the only places north. Of course in Mexico they can get relief, as also in Europe, where they do not have ragweed, and where all they have is the so-called summer season, where rye is the chief offender.

Dr. Rawlings. What about a lake trip?

Dr. Nelson: That is temporary. We can do ex-

actly the same thing with air filtration in the home, such as we pointed out in our article a week ago in the *Journal*, A. M. A.

In reference to the point Dr. McReynolds' brought up about modern transportation decreasing the amount of pollen a person comes in contact with as compared with transportation years ago; I do not agree with him. I feel that in the days when we used to be able to travel six miles an hour in a buggy, the roads were dusty, but I feel in these days, when you can travel sixty miles an hour and cover ten times as much distance, you are going to pass ten times as many ragweed plants and ragweed patches, and I think you get more pollen. At least that is the consensus of opinion of the men doing this type of work throughout the country.

Locally a great deal has been done by cutting the weeds, but they must be cut before they pollinate. It is utter folly to send a group of men out cutting weeds beginning August 10 or August 15. If you do that you are going to have what we found in Chicago about a year ago. When they became over zealous about ragweed on the West Side, a group of men were sent out to cut weeds, after they had begun to pollinate, and we had six men at the University of Illinois who came in with hay fever that never had had it before. They had been potential hay fever victims, and the tremendous amount of pollen inhaled while pulling these weeds precipitated the attacks. Ragweed should be pulled in July. This should be a matter of education.

There has been some local eradication of weeds. Scheppegrell mentions several areas in the Southwest. Education will help, as far as the public is concerned; in the same fashion that the public health officials have worked with other conditions. You have had to educate the public, and made them toxin-antitoxin conscious. You have had to educate the public as to pure water supply and many other factors which enter into a public health program, and the same can certainly be done with ragweed and our fall plants in the same way. It can be done through the schools; through women's clubs, through your service clubs in the various cities, as the Rotary, Kiwanis and Elks. They are willing to help, and I believe, if you get a public health program for the eradication of the causes of this condition, and educate the public as to what actually causes hay fever, and teach them what to do, I think you will see some very startling results. I thank you.

## BIBLIOGRAPHY

1. Thommen, A. A.: *Asthma and Hay Fever in Theory and Practice*, part iii. C. Thomas, 1931.
2. Scheppegrell, Wm.: *Hay Fever and Asthma*. Lea and Febiger, 1922.
3. Koessler, K. K., and Durham, O. C.: *J. A. M. A.* 86:1204, 1926.
4. Hesselman, H.: *Geol. Foren. Forh.* 41:89, 1919.
5. Riley: *Fifth Report of the Noxious Insects*, etc., of Missouri, 1873, p. 86.
6. Durham, O. C.: *J. A. M. A.*, 94:1907, 1930. *J. Allergy*, 2:258, 1931. *J. Allergy*, 3:357, 1932. *J. Allergy*, 4:105, 1933.
7. Spain, W. C., and Cooke, R. A.: *J. Immunol.* 9:321, 1924.



## PHYSICAL EXAMINATION OF THE CHILD\*

Its Objects and Methods

W. L. CRAWFORD, M. D.

ROCKFORD, ILLINOIS

Malnutrition is a relative term, well understood but difficult to define concisely. It refers to *interference with the proper building up of body tissues, and liberating of energy*. Proper nutrition is accomplished by five main processes; Ingestion, Digestion, Absorption, Assimilation and Excretion. Inadequate function of any of these processes may cause malnutrition. Obviously we are mainly concerned with quantitative and qualitative inadequacies of the first group, ingestion; not enough food, or not proper food.

*How Is Malnutrition Recognized?* The prevalent custom of weighing and measuring a child, glancing at a weight and height chart of the proper age and then telling the parents that the patient is undernourished or all right should be condemned as inefficient and many times grossly inaccurate.

Some striking pictures of malnutrition are often seen where weight is proper for age and height due to starchy diets, high in calories. The malnourished child presents poor turgor, or flabbiness of muscle tissues, poor color of skin, listlessness, irritability, poor posture, lack of alertness or even seems retarded mentally; may show marked fatigue upon exertion, be restless and unable to concentrate, or sleep poorly; poor circulation; cold hands and feet. None of these can be recognized by the scales or measuring rod, but a child with these present cannot be in a state of correct nutrition (proper building up of body tissues and liberating of energy).

*What About Undernutrition?* Malnutrition is largely a qualitative term. Undernutrition is largely a quantitative term. Both may overlap, and usually do.

Undernutrition or undernourishment permits of much confusion when the only guides are the weight charts mentioned.

It is perfectly obvious that a child of small parents, small of frame, and small-boned, may be well nourished, even though the figures show it to be well below the "average of twenty or

fifty thousand boys, apparently healthy," of that age.

It is just as obvious that a child may have been previously ill for a long time, and had a severe set-back, and yet at the present time be in a good state of nutrition, even though below average figures for weight and height.

Old healed rickets may present a similar condition to the examiner.

*Are Age, Weight and Height Charts Indispensable?* There should be no misunderstanding about the value of weight and height charts. They are indispensable as guides to all except the most expert examiners; they must however be used as only one index of the child's condition, and if used this way in connection with a proper examination of the child, should help pick out the malnourished and undernourished child. Too much emphasis cannot be placed on whether the child is within the seven per cent. or ten per cent. above or below average.

*Rate of Gain or Need of Repeated Check-ups in Some Cases.* Certain children who are below average figures, or who are having defects corrected, should be examined at intervals, months apart, to see if *their rate of progress* is satisfactory.

In treatment, we must not forget that we cannot change the type of individual by forcing of food. No amount of feeding will make a draft horse out of a broncho or a cow pony.

*Causes of Malnutrition.* Before going on to the examination of the child, the following quotation will be interesting:

"The causes of malnutrition are faulty health habits, acute disease, physical defects, especially enlarged or infected tonsils, adenoids, deviated septa and sinus infection, chronic otitis media, carious teeth, eye-strain, syphilis, tuberculosis, chronic overfatigue; nervous excitement in or out of school due to examinations, too much home work, movies, too many outside activities—either mental or social—worry, too little outdoor activity, too little sleep, faulty dietary habits, i. e., tea and coffee, rapid eating, candy and sweets in too large quantities and taken either between meals or before meals, and the substitution of "cakes" for bread which, with coffee, forms the breakfast of the children of many ignorant and poor parents. It has been shown that while poverty is doubtless a cause, parental

\*A Symposium on Nutritional Problems in Childhood.

ignorance and shiftlessness are much larger contributing factors."

*The Examination of the Child.* It has been well said that the most important part of the child's examination is a careful case history. However, for the sake of brevity, we will concern ourselves with the Physical Examination only, omitting the Case History, Laboratory Procedures and Psychiatric Study.

*Is There a "Best" Method of Examination?* Some highly regarded clinicians who poke fun at the exaggerating mother, who maintains that her well-fed child "will eat absolutely nothing," paradoxically teach their students that this or that particular method or routine of examination is the "best" way.

May we state here that if the clinician has a routine, or procedure entirely "unorthodox," but which elicits the essential facts, and is thorough, then that method is the "best" for him.

*Are All Children Examined Alike?* The three month old baby may be examined altogether differently from the ten year old boy. The ten year old boy who is calm, unafraid and not anxious or excitable, may be examined in a different routine, and with a different approach than the ten year old who is anxious, excitable and afraid wondering what each instrument is for and "what will it do to me."

The important thing in a physical examination is to have an orderly picture of the information to be sought. It does not matter if this be printed out in detailed "systems" on a card, or printed in the observer's mind; if either be complete, the order of examination (i. e. whether eyes, mouth or chest be first or last) is unessential.

*General Inspection Is the First Thing.* Practically all agree that general inspection should be first. This may be done in part while getting the history, noting if the child is active, alert, listless, irritable, if he is the same type of individual as his parents or grandparents, what type of posture he has; is he afraid or anxious. The child should be stripped and inspection should include condition of scalp, symmetry or lack of it, of all parts of body, skin, facial expression, eyes, ears, neck for glands, pulsations, etc. chest for respiration and type, vascular changes over chest or abdomen, position of body, inguinal region, genitalia (secondary sex characteristics in older children), and type of move-

ment of extremities. All of this, and other things indicated by above, may be done without even touching the child or disturbing it in any way. Chorea, hydrocephalus, cretinism, adenoids, Mongolism, are but a few of the conditions which inspection alone usually diagnoses, and further examination usually confirms.

*Detailed Examination.* Height and weight should be recorded. Circumference of skull and chest may be recorded.

*The Skin* should be examined for color, texture, amount of subcutaneous fat, edema, or any dermatologic lesions. The condition of scalp and texture and thickness of hair should also be noted.

*Skull* shape and defects, and fontanelles and sutures of infants may next be noted.

*Ears* should be carefully examined for discharge, and for hearing. An electrical otoscope should be used.

*Eyes* should at least be checked for discharge, conjunctival or corneal defects, pupillary reactions, strabismus, and nystagmus, even if observer is not competent to check vision.

*Nose* contour, condition of septum and turbinates, character of discharge if any, and tenderness over accessory sinuses may be observed.

*Mouth* examination is very important. Condition of mucous membrane of lips and cheeks, and infected or bleeding gums may be noted. Teeth should be examined for cavities, abscess, or malocclusion, after observing moisture and coating of tongue.

*Tonsils* should be carefully examined for hypertrophy, but more especially for signs of infection. Post-nasal signs of adenoids should never be overlooked. The symmetry of the pharynx is important from the standpoint of abscess or abnormal glands.

*In the Neck*, the condition of the cervical lymph glands should be noted.

*The Thyroid Gland* should especially be examined.

*The Chest* shape should be examined in detail. Heart and lungs should be carefully gone over by inspection, palpation (with warm hands), auscultation (warm stethoscope) and percussion in the order named, and in children old enough, the heart should be checked after exercise. Pulse rate and respiratory rate should be noted. Percussion of the child should be more delicately done than in adults. Attention should be paid



to evidence of widened superior mediastinum in front (lymph glands, thymus, great vessel anomalies, etc.) and to D'Espine's Sign posteriorly.

*Abdominal* shape should be noted if abnormal, masses should be carefully searched for, being careful to palpate gently with warm hands. In infancy peristalsis can often be observed. Umbilical hernia may be seen or felt. Spleen, liver, kidney or other organs may be palpated.

*Inguinal Region* should be examined for glands, hernia, hydrocele, or undescended testicle in boys.

*Genitalia* should be examined for abnormality in all cases.

*Extremities:* Should be examined for symmetry, position and motion, in addition to special features under osseous and muscular systems. Clubbed fingers should be seen if present.

*Central Nervous System* should be investigated by means of reflexes of upper and lower extremities, at least biceps, radial, patellar, achilles and abdominal reflexes being tested. In older children coordination tests of hands, or feet, or both, should be included.

*The Osseous System* of children should have especial attention, looking for craniotables, enlarged epiphyses at ends of long bones, rosary or groove on ribs, knock knee, or bow legs, changes in spine contour, and weight bearing lines of feet. Tenderness (scurvy, etc.) may be noted at the same time.

*Musculature* should be firm, not flabby, and symmetrically developed, and movements should be rhythmical and well controlled.

*Foot Arches* both longitudinal and transverse, should be examined in conjunction with muscle and bone systems as flat feet are unusually prevalent in children.

*Lymphatic* glands should be systematically examined either when cervicals are palpated or later: epitrochlears at elbow, inguinal glands or popliteal should not be overlooked.

*Temperature*, rectally or by mouth completes the physical examination.

Other procedures such as laboratory or psychiatric examinations may now be considered but they are beyond the scope of this paper.

A resumé of the above findings is then in order, and an attempt made to evaluate findings properly, on basis of heredity, environment, past history including feeding, in conjunction with present history. If this be done to best of abil-

ity, the examiner will have done an efficient service to the patient, and will have detected malnutrition if present.

## CAUSES FOR POOR NUTRITION OTHER THAN THOSE WHICH ARE PURELY PHYSICAL\*

C. ANDERSON ALDRICH, M. D.

WINNETKA, ILLINOIS

Causes which are not strictly physical exert a profound effect on nutrition in all classes of society. These may be grouped under three main headings: 1. psychogenic anorexia; 2. poor habit formation, and 3. poverty.

*Psychogenic Anorexia.* In the more favored classes of society anorexia is a much more important factor in nutrition than it is among poor people or in child-caring institutions. But even among the latter we have recently seen an increase in this disturbance, due, no doubt, to successful educational efforts about proper foods.

To my mind, the prevalence of anorexia of this type is due to a basic misconception of the simple facts of nutrition. Good development depends less upon adequate caloric intake than it does upon qualitative considerations in the diet. Every new report from the biologists emphasizes the need for amino-acids, mineral salts and vitamins in our diets, while in recent years the idea that a large caloric intake was necessary has been losing ground. When the calory was discovered as a *unit of energy* it was erroneously assumed that it must be a *unit of nutrition*. This resulted in two serious feeding errors; first, that large amounts of carbohydrate were advocated, and second, that food was inconsiderately urged upon children in order to increase caloric intake. The results were and still are serious to nutrition as well as to the mental health of children. The first mistake resulted in a marked increase in the incidence and severity of rickets. The second misconception caused almost uniformly a resistance to food by those forced to eat.

At the present time it is conceded by most pediatricians that the normal child will eat enough food for adequate nutrition if it is intelligently offered to him in palatable form without undue urging. Intelligence here means that the introduction of all new types of food to infants

\*A Symposium on Nutritional Problems in Childhood.



must be gradually and tactfully accomplished. Variety in the diet of early infancy is important because babies long accustomed to one or two foods usually resist any change from this regime. The consistency as well as the character of foods must be varied in the early months for the same reason. If properly handled, the child of from 12 to 18 months should be able to feed himself all of the important articles of food such as milk, cereal, vegetable, meat, cheese, eggs and fruit. After this educational procedure is accomplished, adults must use great care not to interfere with the child's meal time by suggesting quantity or quality of food or speed in eating. It has been amply demonstrated by Dr. Clara Davis<sup>1</sup> that children will inherently develop an adequate internal control of the variety and amount of food if we allow this control, appetite, to develop unhampered. If this is not done, the child rebels at undue supervision, refuses to eat and appetite, our greatest ally in nutrition, is ruined. We say that the child has anorexia.

Once anorexia is established in a child, harmful results become evident in several ways. In the first place, he becomes unhappy because life at home is disturbed three times a day by meal-time strife. This, in turn, may lead to pronounced negativism to all parental suggestions. Peevishness, temper tantrums, vomiting of meals, and other infantile reactions often appear so that the development of the "nervous child" on a nutritional basis is a common result. The actual reduction of the amount of food eaten may become of considerable importance in these children with ensuing decrease in the rate of gain. Of far greater importance than mere reduction in amount of food eaten is the fact that such children usually *learn to refuse most firmly those foods which we think of most value*. This is because such articles are the most urgently forced. The ultimate result is often that children eat extremely small amounts of foods containing accessory factors, and subsist almost entirely on milk, bread, cereals and sweets. Nutritional damage is easily seen in these fat, pasty, susceptible children whose mothers say they "don't think Johnny could live if he didn't like bread and milk."

To avoid psychogenic anorexia and insure ade-

quate nutrition, the technique of feeding children must be carefully controlled<sup>2</sup> so that their natural desires are given a free reign, and dietary selections should contain only such foods as are qualitatively adequate. Sweets, white cereals, bread and puddings should be offered rarely if we expect children to develop taste for the kinds of food we know to be most important.

*Poor Habit Formation.* Since appetite is in a sense a habit, the previous subject should properly be included here, but it is of sufficient importance to merit separate consideration. The other habits of life which most directly influence nutrition are those of sleep, play, and bowel control.

It is so easy to establish good *sleeping habits* that it is surprising to find them so often neglected even among intelligent people. If from earliest babyhood, the child is accustomed to regular times for sleep and if a reasonable amount of consideration is given for individual variation, very little difficulty should be encountered. I add this qualification because it has been my observation that different children need varying amounts of sleep and that attempts to adjust each child to average sleeping hours are often futile. Every baby should be given the opportunity to sleep at regular intervals. His environment should be comfortable and quiet and sleep should be interrupted only when he awakens. Once asleep the baby can be trusted to remain so as long as desirable unless he is disturbed or ill. Regularity should be stressed more than number of sleeping hours. Poor habits of sleep lead to fatigue, susceptibility to disease, anorexia, and other nervous symptoms which hinder the attainment of optimum nutrition.

*Play* should have its regular time and place in the child's life, because it is of utmost importance in his developmental welfare. On the other hand, play should be excluded from meals because it interferes with eating. This does not mean that dinners should be dignified or funereal. On the contrary they should be most happy and cheerful times. However, blocks, toy trains and tops do clutter up the table and take the child's attention from the business at hand.

Regular habits in *bowel elimination* are of utmost importance to nutrition because of the bad results of persistent stasis on appetite and

1. Davis, Clara: Self Selection of Diet by Newly Weaned Infants, Am. Jour. Dis. of Children, Vol. 36, pp. 651-679, October, 1928.

2. Aldrich, C. A.—"Cultivating the Child's Appetite," MacMillan, N. Y., 1927.

digestion. I believe that in early infancy our attempts to secure regularity should be confined to dietary measures rather than to attacks from below as in the use of suppositories and enemas. If these measures are used the impulse to which the baby is taught to respond comes from the wrong direction. It is easy to develop an abnormal suppository habit in trying to assure regularity and this may be difficult to eliminate. It has been my policy to delay the teaching of voluntary bowel control until the child is old enough to know "what it is all about." Most of those "trained" at 3 months are not "trained" at 18 months. Violent emotions should not be stirred up over this important function because if they are, a constipation due to psychic aversion to the act may result. So arrange the early diet that involuntary evacuations will be easy and fairly frequent; then wait before attempting voluntary control until the child can cooperate intelligently and this problem will be easily solved.

*Poverty.* The effects of poverty on nutrition are so many-sided and important that only the high lights can be touched upon here. Under the pall of poverty the newly born babe is already poorly nourished. Usually his mother has not eaten the sort of diet which enables her to pass on to her child those factors which are necessary for good nutrition. As a result mortality rates among poverty stricken people are high at the neonatal period, and those children who survive do so in spite of a sequence of infections and nutritional ailments. Confirmation of this statement can be found in a comparison of mortality and morbidity rates of the poor with those of the more fortunate classes of infants. In later months the same condition holds true even if the babies are breast fed, because breast milk can contain only those factors stored or eaten by the mothers. If the babies raised in poverty are artificially fed the situation becomes more acute unless two factors step in to protect the child, charity and education. These have been admirably combined in the infant welfare movement which is saving and nourishing thousands of babies every year who would otherwise die. Proper cooperation with and control of infant welfare and similar activities is the duty of every physician really interested in the nutrition of children.

Inadequate heating of houses, overcrowded living conditions, unsanitary arrangements, lack of

sunshine, poor personal hygiene, and filth must be added to the unfavorable factors due to or fostered by poverty. All have their bearing on nutrition. They constitute a challenge to the physician who is able to see beyond the exigencies of his daily calls.

723 Elm Street.

#### PHYSICAL DEFECTS COMMONLY FOUND WHICH INFLUENCE NUTRI- TION AND WHICH ADMIT OF CORRECTION\*

A. H. PARMELEE, M. D.

OAK PARK, ILL.

The nutrition of the child depends not alone upon the availability of proper food in adequate quantity, but in no small degree, as well, upon the child's physical health and general environment. Some of the common physical defects which influence nutrition will be discussed in this paper. 1. Physical defects which mechanically interfere with the taking of food.

Carious teeth, infected teeth and gums, the absence of certain teeth and improper occlusion will mechanically interfere with the ingestion of food by causing pain or otherwise hindering mastication. To this group belong also very large tonsils which whether inflamed or not, will on account of their size alone, cause difficulty in deglutition. Difficult deglutition is however much more frequently due to another physical defect belonging in this group, i. e., nasal obstruction from any cause. Hypertrophied adenoids are most often to blame for nasal obstruction, but other causes may be nasal polyps or deflection of the nasal septum.

2. Physical defects which directly or indirectly are responsible for a poor appetite:

a. Poor appetite may be the direct result of purulent or muco-purulent discharges in the nasopharynx. Such discharges usually arise from infected tonsils or adenoids, inflammation of the post-nasal and naso-pharyngeal mucous membranes, and from infections of the accessory nasal sinuses. It is also not unlikely that swallowing such material may cause a moderate amount of gastric discomfort and thus decrease the desire for food.

b. There are many physical defects which are indirectly responsible for poor appetite because they contribute in a greater or a lesser degree to

\*A Symposium on Nutritional Problems in Childhood.



excessive fatigue. Of the defects belonging under this heading the more commonly encountered ones are: 1. obstructions to nasal breathing, 2. defects of vision, and 3. defects which interfere with normal locomotion. When there is obstruction to free nasal breathing fatigue is the result of interference with restful sleep, and of the extra exertion made necessary by mouth breathing. Defects of vision cause fatigue because added energy must be expended in the effort to see things clearly. When any impediment to locomotion exists excessive fatigue must result. The most commonly seen defect is the flat-foot deformity; it may be very mild or so severe as to cause considerable difficulty in walking. Corns, calluses, blisters or other injuries to the feet from improperly fitting shoes are also frequently seen. There may also be such defects as club-foot, knock-knees, and other deformities either congenital or acquired.

c. Certain physical defects cause poor appetite because they become portals of entry for infective micro-organisms and are responsible for systemic infections. It is not necessary to go into a discussion of the subject of focal infections. The importance of infections in the tonsils, the teeth, and the nasal sinuses in the etiology of systemic diseases is sufficiently well established to demand that these structures be investigated when general health is impaired. It is however equally important that good judgment be used in determining to what extent improvement can be expected, and whether the degree of improvement that can reasonably be expected justifies radical treatment. While there can be no doubt about the wisdom of removing or otherwise eradicating all definitely proven foci of infection, there is real danger that meddling treatment will at times be undertaken when it should have been avoided. The improvement in appetite which follows the removal of infected tonsils is sometimes amazing, but it does not follow that whenever a child has a poor appetite he will show improvement after the removal of his tonsils. 3. There is an inter-reaction between some physical defects and nutrition and this inter-reaction may produce a vicious cycle.

Physical defects such as have been discussed, which interfere with the taking of food, either by mechanical hindrance or by decreasing appetite directly or indirectly will of necessity react adversely upon nutrition. Poor nutrition thus

produced will in turn result in a decrease in neuro-muscular tone, increased fatigueability, poor posture, poor functional activity of the respiratory system, the circulatory organs, the digestive tract, etc. The effect of all this will be a still greater impairment of nutrition and a vicious cycle is well under way. Unless measures are instituted to correct the condition or the conditions primarily responsible more serious results of defective nutrition may manifest themselves. Among these there may be a severe nutritional anemia, which will take months of careful treatment to correct. Frequent infections of the upper respiratory tract may result, due to the poor general physical condition and the lowered resistance to infection. The problem thus becomes a complicated one. The correction of physical defects alone may not be sufficient to effect an improvement in nutrition at this stage for the disturbed nutrition itself, if of long standing, has caused damage to many tissues and organs of the body.

715 Lake Street.

#### THE INFLUENCE OF ACUTE AND CHRONIC CONDITIONS UPON NUTRITION\*

STANLEY GIBSON, M. D.

CHICAGO

The nutritional condition of an infant or child is an important index of the state of his health. That this fact is appreciated by the laity is evidenced by the mother's zeal in studying height and weight charts, and in her exultation or despair depending on whether her child exceeds or falls below the accepted standards. This concern of parents about the underweight child has been reflected in the large number of articles which have appeared recently both in the lay and medical press upon the subject of malnutrition in childhood. The majority of these articles have stressed the fact that most children who are malnourished owe this condition to faulty food habits, poor hygiene, over fatigue, pampering or other unfavorable environmental factors. In other words the child has not been properly managed at home. This explanation is often the correct one, but it is likely to give both to parent and physician a false sense of security against the possible presence of organic disease.

\*A Symposium on Nutritional Problems in Childhood.



It is well to keep in mind that pathology rather than psychology *may* account for the child's condition, and that every malnourished child is entitled to a thorough physical examination.

It will be readily appreciated that a great variety of acute and chronic conditions may exert an unfavorable influence upon nutrition. A few of the more frequent and important ones will be discussed.

*Upper Respiratory Infections.* Upper respiratory infection, at least in the changeable climate of the temperate zone, is the most frequent ailment of children. At certain seasons of the year when this infection is epidemic, it is more prevalent than all other diseases combined. By whatever name it be known, the common cold, or grip, or "flu," the clinical picture in typical cases is fairly characteristic. The child has a nasal discharge, coughs, develops a fever, is droopy, and loses his appetite. Even though the acute symptoms may subside within a few days, the patient may continue to be irritable and eat poorly for a considerable time. Several weeks may pass before the child regains the weight he has lost due to the acute illness. Not infrequently the child suffers a second attack before he is well recovered from the first, and may have a half dozen or more attacks during the winter and spring. In such instances the child's nutrition invariably suffers, and he may have failed to gain or even have shown a loss in weight during the entire time.

It should also be emphasized that acute respiratory infections may produce a variety of complications, and that these should be looked for when recovery is delayed and the child's nutritional condition remains below par. Infection within the depths of the tonsils may persist, even though the surface of the tonsils appears clean. Enlarged and infected adenoids, swollen cervical or tracheobronchial lymph glands, subacute or chronic otitis, chronic bronchitis, bronchiectasis, lung abscess, or empyema, one or more of these may result from infections of the upper respiratory tract. Involvement of the sinuses is not infrequent, and should be emphasized because symptoms and signs may be few or altogether lacking, and x-ray examination is often essential for diagnosis. Acute hemorrhagic nephritis is a sufficiently frequent complication that its presence or absence should be

determined by repeated examination of the urine.

*Heart Disease.* Heart disease, either congenital or acquired, may be responsible for a lowered state of nutrition. Congenital heart disease is relatively rare, and a fair share of these cases show no nutritional handicap. The more severe ones, however, usually are underweight and underheight for their age.

Acquired heart disease in childhood is almost always rheumatic in nature. It is often preceded or accompanied by other manifestations of the rheumatic infection such as tonsillitis, fleeting joint pains, or chorea. In many instances, however, these other manifestations are so mild or transient that they are overlooked, or they may be absent altogether. Hence careful examination of the heart may yield the only clue to the source of the trouble. Rheumatic heart disease in children is a chronic illness. Evidence of active infection usually persists for weeks or months. There is moreover a great likelihood of recurrences. During the period of active infection the child presents a classical picture of malnutrition. He is pale, tired, and drawn, the appetite is poor, and loss in weight occurs. Indeed one of the best single criteria for determining the progress of the case is the fluctuation in weight. Even in the absence of other symptoms or signs, failure to gain weight is highly suggestive of continuing infection, and steady gain in weight is important evidence that convalescence has been established.

*Tuberculosis.* Tuberculosis in early life, whether it be miliary, diffuse pulmonary, or glandular in type may fail, at least in the earlier stages, to present any definite physical signs by which its presence can be detected. The one symptom which is most likely to attract attention is that the child loses, or at least does not gain satisfactorily. When tuberculosis is suspected—and it should always be suspected unless other adequate explanation for a lowered nutritional state can be found—the physical examination should be supplemented by laboratory aids; otherwise many cases will be missed. The tuberculin test, with a few well defined exceptions determines accurately the presence or absence of tuberculous infection. X-ray of the chest is most important in determining the presence, localization, and extent of tuberculous foci in the lymph glands or lung tissue. The tendency

towards rapid dissemination of tuberculous infection in children renders imperative an early diagnosis if treatment is to be effective.

*Miscellaneous Conditions.* A complete survey of the diseases which disturb nutrition would include well nigh the entire range of pediatric medicine. The conditions discussed above by reason of their frequency and seriousness have seemed to merit special consideration. Many others readily suggest themselves. The blood dyscrasias may be overlooked unless complete blood examination is done. The possibility of diabetes, or anomalies or infections of the genito-urinary tract should not be forgotten, and hence urinalysis should be a part of the routine study.

In conclusion it should be emphasized that malnutrition is not a disease but merely a symptom. To find its cause may tax the diagnostic abilities of the most painstaking physician.

9554 Longwood Drive.

---

#### THE USE OF COW'S HORN IN A SIMPLIFIED METHOD OF INTERNAL FIXATION OF FRACTURES.

EDSON B. FOWLER, M. D.

EVANSTON, ILL.

Comparatively few fractures require open reduction. When it is necessary, that method of fixation is best, which is efficient and easily applied. For a number of years the writer experimented on animals and patients in an attempt to improve the method of internal fixation of fractures. After considerable experimental work, I found that an intramedullary splint of metal passed through the cortex along the medullary canal for a distance of 1 to 3 inches beyond the fracture holds better than the customary types of internal fixation. Furthermore, I found that the insertion of a cortico-medullary splint requires little time, a minimum of trauma and a modicum of skill.

In the first 10 cases of open reduction of fractures by the cortico-medullary method of fixation, metal was employed, and the outer end of the splint was allowed to protrude through the closed incision.

In order to avoid the use of metal and also to do away with splint material protruding through the closed incision, search was made for a substance for internal fixation of fractures that pos-

sesses advantages over material in present use, namely, metal, dead bone, ivory, kangaroo tendon, chromic gut and even autogenous bone, except possible in the hand of expert bone surgeons. Such a material should be strong, slightly flexible, absorbable, and should not retard, but preferably stimulate callus growth and bony union.

After consideration in the laboratory of various materials, cow's horn was tested and found to be strong, some flexible, readily sterilized and not too brittle. As to whether horn would prove to be absorbable and whether it would retard or possibly stimulate callus growth and bony union could be determined only by trial in a series of cases. This was done in the research department of Northwestern University Medical School with the assistance of Dr. Rupert M. Parker.

Seven dogs were used to test the merits, if any, of the simplified method of internal fixation of fractures, to evaluate, in a limited way, the technique and the worth of horn as an internal fixation material, and to determine the absorbability of horn and whether it retarded or possibly stimulated callus growth and bony union.

A humerus each of 3 dogs was fractured and cortico-medullary fixation with horn was done. All 3 dogs became infected from faulty technique. They were immediately killed. Next one ulna each of 4 dogs was fractured and the cortico-medullary horn splint inserted. One dog died on the third day; cause was not determined. The remaining 3 dogs had prompt bony union with an abundance of callus in and about each fracture. In 2 killed dogs there was an appreciable amount of horn absorbed in 4 weeks and in 3 months fully half of the horn had been absorbed. The last dog has not yet been killed to see how much horn, if any, remains unabsorbed.

A year ago I began the use of cow's horn as an internal fixation material in fractures which required open reduction because of extensive interposed tissue. The bones involved were clavicle 1, humeri 2, radius 1, femur 1, ulnae 3, tibia 1. The technique is as follows: after the incision and exposure of the fracture, a hole is drilled through the cortex 1 to 3 inch distant from and reamed obliquely toward the fracture. The medullary tissue is drilled or



reamed 1 to 3 inches each way at the fracture to receive the cortico-medullary horn splint. While the bone fragments are held in line the splint rod of horn is passed or lightly driven through the cortex along the medullary canal beyond the fracture 1 to 3 inches depending on the size and length of the bone involved. The surplus horn protruding is cut moderately close to the cortex. The subcutaneous structures are approximated and, if necessary to close any dead spaces, a few fine plain gut sutures are inserted. The skin is closed with dermal and plaster is applied as in a simple fracture.

All 9 fractures united promptly with what appeared to be a super abundance of callus. No complication occurred. In the first patient, operated on a year ago, the end of the horn in the ulna was palpable under the skin over the olecranon for a period of six months, after which time, nothing more could be felt of the horn. X-rays are of little value in determining the presence or absence of horn. Incidentally this first case of the use of horn was in the ulna of a surgeon who says the presence of the horn has never given any symptoms of soreness or discomfort.

#### SUMMARY

1. A new, simple, efficient method of internal fixation of fractures has been presented.
  2. A new and apparently better material for internal fixation of fractures has been found in cow's horn.
  3. Callus and bony development appear to be stimulated by horn.
  4. Horn is gradually absorbed as indicated by the dog experiments and the ulna case.
- St. Francis Hospital.

#### CHOLECYSTOGRAPHY

##### History of Roentgen Gall Bladder Diagnosis and Recent Advances\*

HARRY A. OLIN, M.D.\*\*

CHICAGO

*Roentgen History.* Perhaps no common condition in medicine has caused more debatable controversy or aroused greater interest than cholecystitis. To the surgeon, the general medical man and the internist, gall bladder path-

ology almost holds first rank, not only in interest but in frequency of abdominal conditions encountered.

As early as 1899, Carl Beck, of New York, first demonstrated the presence of biliary calculi by the Roentgenogram. Later, Cole, Phaler, Case and George demonstrated a greater percentage of cases showing stones and the number of cases recognized, increased as greater advance in Roentgenologic technique improved.

In the early days of x-ray work, due to the use of gas tubes and the induction coil type of transformer, technique was unquestionably the most important factor. Radiographic excellence was also much more difficult to uniformly produce, since the intensifying screens and accessories were not then in use.

The difficulties of the early workers were very much greater, because of the lack of equipment and accessories which the present day Roentgenologist now enjoys. Today, with the improved and excelled type of transformer aided by accessories like the intensifying screen and the Bucky diaphragm, an ordinary technique will cast shadows effectively and good technique will reproduce excellent Roentgenograms with almost constant frequency.

The early workers endeavored to demonstrate gall bladder pathology for the most part by the recognition of shadow-calculi. Because of a great variation of opinion—the most important of which was the personal equation of the observer—many shadows reported as that of the gall bladder did not, in truth, represent the organ as verified later by cholecystography. One of the staunch advocates of the indirect signs of gall bladder pathology after cholecystography became well established states, "Of the 'pre-Graham' indirect signs which I have at various times advanced as suggesting gall bladder disease, I have now to confess that some are unreliable." Various of my colleagues in Roentgenology have joined in teaching the reliability of these indirect signs and they have, undoubtedly, been helpful in the diagnosis of gall bladder disease. In one series of 500 cases which came to operation at our hands, where the barium meal findings were reported in writing before the operation under the head of direct and indirect signs, the indirect Roentgenray evidences were positive in 82 per cent. of the cases which showed disease of the gall bladder at

\*Read before Woodlawn Hospital Staff Conference.

\*\*X-Ray Department, Woodlawn Hospital.



operation. It is only fair to call attention to the error of depending upon the apparent value of negative statistics for there were innumerable cases among the patients not operated on where the question of the presence or absence of gall bladder disease was never checked by operation.

Two of the "pre-Graham" signs are severely criticized by this writer: first, that the visualized, elliptical shadow, presumably the gall bladder, is necessarily pathological and second, that crescentic indentation of the duodenal bulb or the duodenum beyond the bulb is due to pressure or adhesions of a pathological gall bladder.<sup>1</sup> The barium meal combined with cholecystography has demonstrated that a pre-dye film showing a gall bladder shadow is not necessarily pathological, since sometimes a normal gall bladder will cast this shadow, and that the crescentic shadows of the bulb cannot be conceded generally to be due to a pathological gall bladder. From the present day conception of cholecystography and to avoid pitfalls, it is hazardous to depend upon the pre-dye film alone as conclusively demonstrating gall bladder pathology. Gall bladder calculi have already been mentioned. One or two exceptions to this may include a gall bladder whose wall is calcified and, possibly, visualization of the organ by pneumo-peritoneum. In all events, to make sure of one's grounds, resort to the barium meal and the dye should be had to obtain all possible data. A knowledge of data preoperatively indicates intelligence of study of a patient and sometimes may serve as a life saving measure in the guidance of a critical case.

*Indirect Findings.* The early workers placed considerable stress on the indirect findings of the gall bladder. These findings of gall bladder pathology, when present, are of great value to the clinician, but, when absent, offer him no material aid; they are similar to negative findings elsewhere as a negative sputum or a negative Wassermann. The gall bladder, when thickened or calcified or containing inspissated bile, may occasionally cast a shadow if the patient's abdominal wall is not too thick. Otherwise the Roentgen evidence is not sufficient to support the diagnosis—the clinical signs sharing in the preponderance of positive evidence. Most of these indirect signs are obtained in the routine examination of the gastro-intestinal tract by means

of the opaque barium meal and include the following:

1. Gastric spasm.
2. 6 hr. residue in duodenum.
3. Fixation of the pyloric end of stomach and duodenum or hepatic flexure.
4. Pulling over of stomach to right by adhesions or displacement by tumor or inflammatory mass about gall bladder.
5. Increased gastric peristalsis.
6. Demonstration of Riedel's lobe of the liver.
7. Localized tenderness over gall bladder area.
8. Demonstration of normal stomach and duodenum to exclude as probable causes of symptoms.

Gastric spasms occur not infrequently in association with cholelithiasis, cholecystitis and pericholecystitis and when these spastic phenomena occur, attention and suspicion should be thrown to the gall bladder region. Carmen states that spastic manifestations may range from a slight incisura to a temporary hour-glass stomach or a regional deformity confined to an entire area, as the pylorus.

The six hour residue in the stomach or duodenum may occur due to a result of pericholecystic bands of adhesions constricting the pylorus or duodenum. Sometimes, though rarely, a gastric residue may occur with cholecystitis but without organic obstruction.

Fixation of the pylorus or duodenum may occur as the result of adhesions in the gall bladder area, causing roughening of the pylorus and irregularity of its contour. The bulb, too, may undergo stenosis or irregularities as a result of adhesions.

A distended or dilated gall bladder or an inflammatory mass about it may cause an indentation of the duodenum or antrum or displace it to the left. Rarely still, a malignant mass of the pylorus such as carcinoma may perforate into the gall bladder and communicate with that organ. Increased gastric peristalsis may occur as reflex phenomena in gall bladder diseases with or without duodenal obstruction. Case considers the presence of Riedel's lobe of the liver as a valuable sign of cholecystitis after inflation of the colon. Some authorities consider this condition as congenital or due to tight lacing of corsets which, in the present age, fortunately does not exist.

Localized tenderness over the gall bladder region is only of value when there are other definite signs present. Taken by itself, it is

of little value as many patients complain of tenderness here, who show a normal gastric and duodenal outline.

Prior to 1923 the status of gall bladder diagnosis by x-ray remained as outlined above. Graham and Cole, in their first paper, brought out the value of visualizing the gall bladder by means of the intravenous injection of the dye salts of sodium phenolphthalein, combining it with the halogen group.<sup>2</sup> Over a period of many months of experimental work utilizing all the salts, it was successfully demonstrated that a normal gall bladder will cast a shadow from 4 to 24 hours after intravenous injection and that the iodine salt of the dye will cast the most intensive shadow of all; thirdly, and equally as important, is the fact that the iodine salt is less toxic and can be given in larger amounts.<sup>3</sup>

In June, 1925, Milliken and Whitaker revolutionized the method of administration by giving the salt orally, the method being tried out at the same time, coincidentally, by Graham, Cole and Copher.<sup>4</sup> The dye in some pill or capsule form was used, first coated with salol and later with keratin to withstand attack by the gastric secretion. Due to some of the capsules occasionally not dissolving in the intestines, the reliability of this method was questioned and the oral method gained less favor and popularity. However, since 1925, when Menees and Robinson administered the dye orally in solution, using the salt of sodium tetrabromphenolphthalein, the oral method regained its popularity and became the method of choice by most workers.<sup>5</sup>

Again, in December, 1927, Levyn and Aaron of Buffalo further stimulated the oral method by giving the newer salt, sodium tetraiodophenolphthalein in solution. They dissolved the salt in water and mixed the solution with grape juice. To facilitate ease of administration, they had the powder put up in individual doses in such a manner that enough malic acid was added to precipitate one-half the salt, claiming that the suspension would keep indefinitely and yet form, when administered, a freshly precipitated free acid, which is absolutely essential. This precipitated mixture was added to fresh grape juice when given the patient and therefore the entire salt was precipitated for the test. The presumption was that this treatment broke up the un-

stable disodium salt into the stable monosodium salt and sodium malate, thereby preventing decomposition.<sup>6</sup>

With precautions observed and instructions faithfully carried out, the oral method is now considered to be as equally reliable as the intravenous route. The oral method has, in many cases, been repeated to confirm the original findings without resorting to the intravenous route, where absence of the gall bladder shadow occurred and was proven by the presence of a pathological gall bladder at operation. Where shadows of unabsorbed dye are seen in the intestines or in instances where bowel movements have been profuse from one to two hours following ingestion of the dye, a good cholecystogram has been visualized, repeatedly. If the dye is retained, invariably there is sufficient absorption to cast a shadow in spite of incomplete absorption and one or more loose bowel movements.

Some workers using the oral method are now administering from one to four fluid drachms of camphorated tincture of opium simultaneously with ingestion of the dye to overcome the reaction of diarrhea, an idiosyncrasy not infrequently encountered. The absorptive powers of the alimentary tract are not impaired or interfered with as far as the dye is concerned passing through the intestinal wall. Very frequently this finding is borne out in cases wherein morphia or opium has been given to control pain during a cholecystographic study. Furthermore in an opinion of Dr. Ivy, given to the writer, morphine or opium does not interfere with the passage of the dye through the intestinal wall. Orally the writer never exceeds a dose of 2 grams in patients weighing over 125 pounds; those weighing under 110 pounds are given 1½ grams if the weight is proportionate to the height; in children the dose is proportionately less.

*Physiology.* The dye salt is eventually excreted by the liver and by the gall bladder. During the passage through these organs, similar to the passage of barium sulphate in gastrointestinal examinations, a shadow will be produced on the x-ray film. The concentration of the gall bladder contents, due to the absorption of water, is primarily responsible for the intense dye shadow which is cast. Carlson, in an



article on "Physiology of the Liver," states the following:

"It is definitely demonstrated that the bile in the gall bladder is concentrated, that there is considerable water absorption. Apparently some mucin is added to the bile in the gall bladder. The gall bladder itself is freely contractable by virtue of the small amount of muscle tissue in its wall. We must remember that the entire liver, including the gall bladder and duct system, is a diverticulum of the intestine and we must expect some remnants in structure and function in duct from this original intestinal anlage. Bile is continually produced by the normal liver, even in fasting man and animals, and it continues to flow into the intestines provided there is no obstruction to the duct system, even during prolonged fasting. I feel that the role of gall bladder as the storage organ for bile has been greatly exaggerated, as many text-books of physiology err when they state that bile does not enter the intestine except during digestion. The inference from such a statement is that the bile secreted during fasting is stored in the gall bladder; the gall bladder is not of sufficient size for such storage, even though considerable absorption of water from the bile takes place in that organ. Animals at autopsy show relatively the same size of the organ whether they are killed fasting or in a state of digestion."

Furthermore, the normal gall bladder has a capacity of about 30 cc. and, in the course of 24 hours, from 500 to 1500 cc. of bile are secreted by the liver, this demonstrating that the organ accomplishes little, if anything, in the way of storage. Rous and McMaster in 1921 proved that the gall bladder was able, in a few hours, to concentrate one-seventh of its bulk;<sup>8</sup> therefore, the dye is best given in the most convenient time for the patient, preferably followed by an evening meal, omitting fat and protein, and allowing concentration of its contents overnight. The x-ray examination is made the next morning, omitting breakfast, after a fasting interval of sixteen hours. My experience with the dye, since its introduction by Graham in 1924, has made me feel that the period of greatest intensity of the shadow occurs after a lapse of sixteen hours. Fortunately this occurs whether the dye is given orally or intravenously as the instructions and precautions are the same for both methods. Most workers, among them Case, have demonstrated that the dye casts its maximum shadow at 15 to 16 hours following ingestion. One or more hours following a fat meal a normal gall bladder becomes less in size and sometimes less in density, although this latter does not always happen.<sup>9</sup>

Dilatation of the bile ducts from 2 to 6 times their pre-operative diameter following removal of the gall bladder has been demonstrated by Mann. The sphincter of Oddi was also observed by him to become more or less functionless after removal of the viscus. The same worker injected rose Bengal dye intravenously after ligating the cystic duct and found some of the dye in the gall bladder, the liver having excreted the major portion of the dye, demonstrating the excretory function of the organ, at least for this dye.<sup>10</sup> Mann draws the following hypothesis for the function of the gall bladder: During the fasting state the liver produces small amounts of bile, most of which is stored and concentrated in the gall bladder. After a meal, as the acid chyme enters the duodenum, it causes the sphincter of Oddi at the ampulla to relax and the gall bladder expels bile. Bile is rapidly absorbed and stimulates the liver to excrete more bile. During the process of digestion the flow of bile to and from the gall bladder is active. This occurs just as long as acid chyme flows into the duodenum. As the stomach becomes emptied, there is no longer any need for much bile, hence the quantity gradually diminishes until the secretory activity of the liver is reduced to a fasting state. In the fasting state most of the bile secreted by the liver is stored in the gall bladder by concentration.

Using these physiological facts in cholecystography, we allow the contents of the gall bladder to become concentrated overnight, allowing sixteen hours to insure this condition and to give the dye its maximum intensity corresponding to the greatest point of gall bladder concentration. Boyden, an anatomist of the Harvard Medical School, demonstrated in 1922, for the first time, that complete collapse of the gall bladder in mammals could be induced naturally by appropriate food, that is a meal rich in fat, as egg yolk and cream, and that pure protein in the form of eggwhite, or carbohydrates, failed to produce any marked decrease in the size of a distended gall bladder. Whitaker, also, studied other foods and chemicals for reduction of the size of the gall bladder, such as peptone and meat protein, egg albumin, hydrochloric acid and magnesium sulphate, the latter two substances introduced through the duodenum, and found that Boyden's meal, egg yolk and cream, caused the most rapid reduction.<sup>11</sup>



*Anatomy.* The anatomical structure of the organ should be taken into consideration, especially those features mostly concerned with function. The most important are: 1. The serous or external coat, which is derived from the peritoneum, covers the fundus, but only the under surface of the neck and body. 2. The fibro-muscular coat, beneath the peritoneal coat, consists of irregularly dense, fibrous tissue interlacing in all directions and through which runs plain muscular fibres, chiefly placed longitudinally. 3. The mucous membrane, a secreting inner layer, is continuous with the mucosa of the bile ducts and is attached loosely to the fibrous layer. Histologically the mucosa is covered with columnar epithelium which secretes an abundance of thick, viscid mucus. The entire mucosa is thrown into elevated folds of minute rugae, by union of which numerous meshes are formed, the intervening spaces greatly adding to the absorptive area. Mann's assertion that, "The gall bladder seems best suited for absorption and the muscular coat to keep the contents well mixed and in contact with the mucosa," is well borne out by its peculiarly adapted anatomy. 4. An intricate and elaborate lymphatic system connects with those of the duodenum and pancreas and communicates with the retroperitoneal lymphatics of the abdomen, especially in the right lower quadrant—one of the factors concerned in the etiology of gall bladder pathology following infection in the right lower quadrant of the abdomen.

The shape, form, size and position of the gall bladder conforms to the type of the individual, similarly to the characteristics of any of the hollow, abdominal viscera. It may be located anywhere in the right half of the abdomen, again conforming to the type or habitus of individuals, from the ninth interspace to an area below the iliac crest—a teaching much opposed to the older text-books of anatomy.

*Recent Advances in Cholecystography.* The sodium salt of tetraiodophenolphthalein was in general use, either orally or intravenously, up to the early part of 1926. In February, 1926, Graham and his associates reported simultaneous cholecystography and tests of hepatic and renal function with the isomer salt, phenoltetraiodophthalein sodium.<sup>12</sup> The old salts did not color the serum sufficiently to be recognizable

even after alkalization—that is the sodium salts—tetrabrom and tetraiodophthalein. Since it is known that in this group of substances, the intensity of color of the dye depends mostly upon the location of the halogen atoms, tests for hepatic function could likewise be determined by the retention of dye in the serum after alkalization, the amount being determined colorimetrically. It was found that the new isomer salt, phenoltetraiodophthalein sodium, if injected intravenously, would not only color the serum but would yield good cholecystograms and require much less dosage besides possessing less toxic properties.

A normal liver will excrete 15 per cent. of the dye at the end of the first hour; therefore a retention of the dye above the normal in the serum would seem to indicate a comparable amount of liver damage existing—the higher the retention, the greater the liver pathology. Excising specimens of liver from each cholecystectomy and recognizing the amount of hepatic pathology comparable to the amounts of dye retained in the serum, Graham was able to estimate the value of the procedure. Almost invariably cases with considerable damage to the liver showed a high retention; while those that possessed a normal excretory function passed through the operation satisfactorily. Investigation of four unexpected deaths, outwardly good surgical risks for cholecystectomy, showed a retention of 90 per cent. in two cases, one of 70 per cent. and one of 60 per cent. A review of the sections of the liver of these four cases showed histologically extreme cloudy swelling, edema and periportal inflammation—changes considered characteristic with cholecystitis.<sup>13</sup>

*Routine Procedure.* The routine that is followed at the Woodlawn Clinic and Hospital is as follows:

1. Preliminary gall bladder film—preceded by catharsis and enema if necessary.

2. Light lunch at noon.

3. At 4:00 p. m. give gall bladder supper, meal void of fat and protein—cooked fruit, baked potato, tea and toast, *no cream or butter.*

4. Dissolve 2 grams of dye in two ounces of tap water and pour into glass of grape juice containing cracked ice—any fruit juice may be substituted for grape juice; administered in bed immediately after supper. Patient lies on right side for several hours—twenty minutes at a time

—after drinking dye solution; may have water freely to 6:00 a. m. following morning.

5. X-ray at 8:30 a. m. following morning, on an empty stomach.

3. Second x-ray examination one hour after a fat meal, consisting of glass of milk—one-half cream—crackers and butter.

The same instructions are carried out for the intravenous method, except that the dye is injected at 4:30 p. m. instead of giving orally. No food is allowed after the gall bladder supper and until after the sixteen hour examination is completed the next morning. Frequently patients who are nauseated and have been vomiting, after a period of a day's rest, will retain the dye if instructed to sip it slowly and take small quantities of the dye mixture from time to time. The right sided position facilitates more rapid emptying of the stomach and diminishes the tendency to vomit.

If cholecystography alone is desired, the sodium tetraiodophenolphthalein salt is given orally. However, it has been made the routine on one of the surgical services to use the sodium phenoltetraiodophthalein salt intravenously followed by the hepatic function test with the specimen blood withdrawn one-half and one hour after injection, allowed to remain in the ice box overnight and the retention test made the next morning. Cholecystograms are also made in the usual routine manner, sixteen hours after injection, with the same technique followed as in the oral method. The most intense cholecystogram is brought out sixteen hours after intravenous injection—the same intensity that is obtained at this hour with the iodekon salt with the oral route. Cholecystograms made earlier, after a lapse of four or eight hours, may mislead one, as frequently a faint shadow or no shadow is cast at this time. This occurred in one of our cases at the end of five and one-half hours and a faint shadow at the end of six and one-half hours. Since the liver function test was normal, repetition was made, using the oral method and the iodekon salt, with a normal cholecystogram obtained at the sixteen hour period.

It has been claimed that the newer, or isomer, salt will cast a more intense shadow than the old salt, iodekon. Either salt will cast about the same intensity of shadow no matter how given, providing the dose orally is at least two grams

and the dye is not vomited. It is the liberation of the iodine from the salt which stains the bile since the iodine content of both salts is the same. Of course it is essential to carry out instructions faithfully to insure reliability of cholecystograms. In the experience of the writer it is rare to find insufficient absorptive surfaces of the small intestine to the extent that enough dye is not taken up by the portal circulation.

In a study of 1,100 patients, examined at the Mayo Clinic by cholecystography, Carman states in his conclusions: "The question may also arise as to whether defective absorption from the intestine may not be a cause of abnormal findings." Mention is made of shadows cast by the dye in the intestinal contents which may be confusing or may conceal the shadow of the gall bladder but he finds such circumstances rare. To quote verbatim: "However, all these objections and doubts seem to have little basis for, in this series, the diagnostic results from all methods have been about equal."<sup>14</sup>

From June, 1928, to April 8, 1933, at the Woodlawn Clinic and Hospital, cholecystography was done 523 times, the oral method being used in all but 13 cases, the smaller number being given intravenously and using the newer salt isoidekon or phenoltetraiodophthalein sodium (phenetiothalein sodium N.N.R.) combined with the liver function test. Either nonvisualization, faint visualization or calculi were noted in 375 cases and a normal cholecystogram was obtained in 148 cases. Of the pathological cases 288 were females and 87 males. So far in this group 89 cases were carefully studied and investigated with complete examinations including all laboratory, gross microscopic pathology and Roentgen visualization and 87 cases came to operation and two to autopsy. Gall stones were found in 26 cases, 23 of which were detected Roentgenologically. In the series of 89 cases cholecystography revealed pathology in 83, a percentage of 94; of the 6 cases diagnosed in error were the following:

1. Male; 62; showing a normal gall bladder; revealed at postmortem metastatic nodules of the liver, secondary to primary carcinoma at the head of the pancreas but with no Roentgen visualization.

2. Male; 49; having a normal cholecystogram; cholecystectomy; section showed acute, hemorrhagic areas of infiltration of the gall bladder wall; liver index 7% and 4%, total of 11%.

3. Female; 51; laparotomy for partial bowel ob-



struction showing a normal gall bladder but whose cholecystogram presented no shadow.

4. Female; 31; normal cholecystogram; operation showed the presence of one stone which was removed but the gall bladder was allowed to remain; no symptoms have recurred in this patient since her cholecystotomy.

5. Female; 53; showing a normal cholecystogram; at operation a strawberry gall bladder was found; a specimen from the liver on biopsy showed severe fatty degeneration and infiltration; hepatitis satellite.

6. Female; 35; presenting a normal cholecystogram; pathological report, subcapsular fibrosis of gall bladder; liver specimen, early biliary cirrhosis.

TABLE 1

Age Incidence—89 Cases			
Age		Male	Female
Under 20 .....		0	1
20-30 .....		1	11
30-40 .....		8	12
40-50 .....		8	17
50-60 .....		7	11
60-70 .....		6	3
70 and over.....		3	1
		—	—
Total .....		33	56
Combined Total .....		89	

TABLE 2

Weight Incidence—89 Cases			
Weight		Male	Female
Under 100 .....		0	1
100-120 .....		1	7
120-140 .....		7	23
140-160 .....		11	13
160-180 .....		7	9
180-200 .....		3	2
Over 200 .....		4	1
		<hr/>	<hr/>
Total .....		33	56
Combined Total .....		89	

To the percentage of error may be added two cases in which stones were reported in addition

to a pathological gall bladder that at operation demonstrated pathology in the gall bladder but no stones, thus lowering the percentage of gall stone detection.

It will be observed that three of these five cases presented very extensive, advanced pathology of the gall bladder in which the liver index was slightly increased. The case of the female, age 47, (Case 2, Table 3) with markedly advanced gall bladder and liver pathology only had a liver index of 25 per cent., slightly above normal. One of our post mortems of alcoholic cirrhosis of the liver showing markedly advanced macroscopic and microscopic pathology, so extensive that upon gross appearance no normal liver tissue could be visualized, had a liver index of only 25 per cent. From these and other observations it can be assumed that considerable damage may occur to the liver substance with the liver index not recording anything like the extent of pathology present. On the other hand it may be assumed that only a small amount of liver substance is essential to carry on a minimum bodily function and that we possess a very generous amount of spare liver tissue.

As will be noted in Table 1, relative to age incidence, the greatest number of cases occur between the ages of 30 to 45, becoming less in the third decade of life and relatively uncommon in patients under twenty. In our series of 89 operative cases, cholecystitis is twice as common in the female as in the male; in the total series of 523 cases, the proportion is three times

TABLE 3  
Five Operative Cases With Pathology of Gall Bladder and Liver

CASE	ROENT. No.	SEX	AGE	CHOLECYSTOGRAM	LIVER INDEX			PATHOLOGY GALL BLADDER	PATHOLOGY LIVER
					½ Hr.	1 Hr.	TOTAL		
1	3574	M	44	Good visualization	7	4	11	Acute areas of hemorrhage with infiltration of wall; strawberry mucosa.	
2	3783	F	47	No visualization	15	10	25	Wall considerably thickened (11 x 6 x 5.0 cm.) lumen contained cylindrical stone, 5 x 3 cm., round stone 1 cm. fundus.	Extensive perivascular and interlobar round cell infiltration. Biliary Cirrhosis.
3	4313	F	40	Good visualization; deformity with stones	12	6	18	Gross—specimen for museum—3.5 cm. from neck is circular constriction dividing viscus in 2 compartments, connected by 5 mm. opening	Too dry for section
4	4354	F	51	Good visualization; deformity.	17	10	27	Gall bladder grossly normal—drained.	Capsule thickened by dense fibrous tissue with round cell infiltration and new capillaries; liver parenchyma well preserved except margin, showing round cell infiltration, chronic hepatitis.
5	4127	M	54	Good visualization, stones, deformity.	12.5	7	19	Slight thickening mucosal folds; fibrosis of wall	None made.



as many in the female as in the male. As regards weight incidence, the greater number of cases occurred in the 140 to 170 pound class; in the 200 pound class three times as many males were affected as females. As a rule the very slim rarely have gall bladder disease; the old axiom of the "fair, fat and forty" having by far the greatest incidence of cholecystitis apparently still holds true. (Tables 1 and 2).

#### SUMMARY

The history of Roentgen gall bladder diagnosis is given, followed by cholecystography and Roentgen progress. The indirect findings upon which the older workers placed so much stress are evaluated. The anatomy and physiology of the viscus in the light of recent research has placed upon cholecystography an indispensable means for correct diagnosis with but few exceptions. There is still much to be learned concerning the physiology of the liver and gall bladder and perhaps newer methods for determining their function will open up a most illustrious field in clinical research. Where chronic disease of the gall bladder is known to exist, the intravenous method of cholecystography with the new isomer salt offers the most valuable data since it combines the hepatic function test and cholecystography with one injection. Finally, instructions for routine procedure as followed in the Woodlawn Clinic are enumerated with the results of a study of 89 operative cases.

#### BIBLIOGRAPHY

1. Case, James T.: The Relative Value of Cholecystography and the So-Called Direct and Indirect Methods of Roentgenological Examination of the Gall Bladder. *Am. Jour. Roentgenol.* 16: 3, 238, 1926.
2. Graham, Evarts A., and Cole, Warren H.: Roentgenologic Examination of the Gall Bladder, Preliminary Report of a New Method Using Intravenous Injection of Tetrabromphenolphthalein. *Jour. A. M. A.*, 82: 613, 1924.
3. Graham, E. A.: Cole, W. H., and Copper, G. H.: Cholecystography. The Use of Sodium Tetraiodophenolphthalein. *Jour. A. M. A.*, 84: 1175, 1925.
4. Whitaker, L. R., and Milliken, Gibbs and Vogt, Edw. C.: The Oral Administration of Sodium Tetraiodophenolphthalein for Cholecystography. *Surg., Gynec. & Obst.*, 40: 847, 1925.
5. Menees, T. O., and Robinson, H. C.: Oral Administration of Sodium Tetraiodophenolphthalein, Preliminary Report. *Am. Jour. Roentgenol. and Rad. Therapy*, 13: 368, 1925.
6. Levyn, Lester, and Aaron, A. H.: Cholecystography by the Oral Administration of Sodium Tetraiodophenolphthalein in Solution. *Am. Jour. Roentgenol.*, 17: 557, 1927.
7. Carlson, Anton J.: Physiology of the Liver: Present Status of Our Knowledge. *Jour. A. M. A.*, 85: 19, 1468, 1925.
8. Rous, P., and McMaster, P. D.: Concentration of Bile in the Gall Bladder. *Jour. Exp. Med.*, 34: 47, 1921.
9. Case, J. T.: Evaluation of Cholecystography. *Jour. A. M. A.*, 92: 291, 1929.
10. Mann, Frank C.: A Physiologic Consideration of the Gall Bladder. *Jour. A. M. A.*, 83: 829, 1924.
11. Whitaker, L. R.: Experiences with Cholecystography, Including Observations on the Function of the Gall Bladder. *Jour. A. M. A.*, 86: 239, 1926.
12. Graham, E. A.: Cole, W. H., Copper, G. H., and Moore, Sherwood: Simultaneous Cholecystography and Tests of Hepatic and Renal Function by a New Single Substance, Sodium Phenoltetraiodophthalein, Preliminary Report. *Jour. A. M. A.*, 86: 467, 1926.
13. Graham, E. A.: Lowering Mortality After Operation on Biliary Tract. *Ill. Med. Jour.*, 60: 196, 1931.
14. Carman, Russell D.: Cholecystography in Its Application to the Diagnosis of Cholecystic Disease. *Minnesota Medicine*, 707, 1925.

#### PARAMEDIAN INCISION\*

GEORGE DETARNOWSKY, M. D., F. A. C. S.

AND

P. J. SARMA, M. D., M. Sc., F. A. C. S.

CHICAGO

The subject of abdominal incision has interested us for many years. Results obtained through the employment of the commonly used incisions were so often unsatisfactory in our service that we undertook a careful study of the problem. This included dissection of a large number of cadavers in order to familiarize ourselves with the normal structure of the abdominal wall, a survey of the literature for descriptions of various incisions for the purpose of a comparative study and the choice of abdominal incisions observed in the principal clinics at home and in Europe. Whenever possible, information was gathered concerning the after results of these various types. In a previous communication one of us (P. J. S.) reported the end results of abdominal surgery on 586 patients, who had had vertical, oblique, transverse or combined types of incisions.

From this study we concluded that an abdominal incision should be of adequate size so that the organs can be explored without difficulty. The incision should not cut the oblique and transversalis muscles, but their fibers should be separated. The nerve and blood supply of these muscles can thus be preserved. The vertical separation of the fibers of the rectus muscle destroys the nerve supply of the mesial portion and produces a permanent weakness of the abdominal wall. The linea alba is very highly differentiated connective tissue. The healing of incisions in this structure is very slow. A trans-

\*Read before the Chicago Surgery Society, in February, 1933.

†From the department of surgery, College of Medicine, University of Illinois and the Ravenswood hospital, Chicago.

verse incision through such an important structure as the rectus muscle is unnecessary. The resulting scar from the transverse incision of the rectus produces a fibrous scar of the whole thickness of the muscle, a condition which does not simulate the normal transverse lineae. Gradual weakening of this scar by stretching is quite a common occurrence. The blood supply of the abdominal wall comes from three directions, viz: upward, downward and laterally. The blood supply is very free and cutting any one of these vessels does not bring serious results but if the blood supply from all directions is disturbed, infection and slow healing result.

These conclusions made us seek for incisions that would conform to anatomical and physiological desiderata. We found that only two types of incisions met these requirements, the oblique muscle splitting and the paramedian with lateral retraction of the rectus muscle.

Gridiron or muscle splitting incisions require no commendation. The universal use of this incision speaks for its merit. In indicated cases it has proven a valuable incision in our hands. We have never observed herniation following damage to the last thoracic or first lumbar nerves, and few observers have reported on such an occurrence.

The paramedian incision with lateral retraction of the rectus muscle is valvular in construction. It can be extended from the xiphoid process to the pubes without injury to the nerve or blood supply of the abdominal wall. It can be made on either side of the abdomen and with careful retraction all parts of the peritoneal cavity can be thoroughly explored.

The incision is made one inch lateral to the midline of the abdomen. The anterior rectus sheath is opened parallel to the skin incision and the mesial edge of the muscle is dissected free and displaced outwardly. The posterior sheath and peritoneum are divided in the line of the opening of the anterior sheath.

The objection often raised against any vertical incision is also raised here, namely, that there is a great deal of strain in the line of incision. Proper coaptation maintained until union is firm, removes all danger of strain.

In cases where drainage is required a stab wound is made on the lateral side of the rectus in the semilunar line or through the oblique muscles and the drain brought out through it.

If the wound is to be drained for a short period it can be established through the upper or lower angle of the wound without fear of herniation. As soon as the drains are removed the wound should be held together tightly so that the muscle will slide over the opening.

Closure by layers is the rule with us. The peritoneum and the posterior sheath are approximated with continuous catgut. The muscle easily slips back over this aponeurotic structure. Silk-worm retention sutures are next inserted, 2.5 cm. apart, and including the anterior sheath and skin. A second continuous catgut suture closes the anterior sheath and the skin is closed by means of continuous silk suture. Retention sutures are tied over a gauze roll. As a rule we have adopted the lock stitch type of continuous suture.

In the early days of our experience with this type of exposure we limited its use to lower abdominal operations. Results in our cases were so gratifying that we adopted paramedian incisions for resections of the colon. Here we followed the suggestion of Moynihan and made the incision ample in size, from six to eight inches long, obtaining ample exposures of the operative field. No herniation or abdominal wall weakness has resulted in non-drainage cases and we have never had a postoperative evisceration in our Ravenswood hospital series.

As experience grew and we became firmly convinced of the safety of this incision, we began its routine use in upper abdominal work. The technique is similar to that employed in the lower abdomen except that the lineae transversae are closely attached to the posterior sheath of the rectus and require careful dissection before the muscle can be retracted laterally.

In exposure of the biliary tract in very obese patients this incision can be slightly modified, after the suggestion of Ashurst. It begins slightly to the left of the midline just below the ensiform, extends downward and outward across the right rectus to just beyond the lineae semilunares at a point below the level of the umbilicus. The anterior sheath of the rectus is opened in the direction of the skin incision, the muscle dissected free along its inner border, lifted outwardly, and the posterior sheath and peritoneum opened beneath it in a line parallel to the linea alba. This incision, while also obviating injury to nerves of the rectus muscle, extends somewhat obliquely



through the skin and anterior sheath and the linea alba in the upper end and whenever necessary the lineae semilunares at the lower end are cut. Ashurst suggests that the linea alba and the lineae semilunares are the two resistant structures in the abdominal wall; if one or both of them are cut across one can get a great deal more exposure through a small incision than if one cuts between them. Closure of this incision is of the step ladder type, intra-abdominal post-operative stress being resisted at three separate levels.

To facilitate better exposure of upper abdominal contents, especially in biliary tract cases, the employment of a reverse Trendelenburg position, as was demonstrated by Gosset is of great help. This is accomplished by strapping the patient's body to the operating table and placing his feet against a foot rest at right angles to the end of the table. The head of the table is raised and the foot lowered. This position allows the stomach and intestines to fall away from the liver and upper abdomen and gives better access to the field of operation.

The paramedian incision has been used by us jointly in over two thousand private patients, and by one of us (G. deT.) in 1262 Cook County Hospital cases up to January, 1932. In the latter series it was used 492 times in the upper and 770 in the lower abdomen.

To check our results we recalled our private patients and such Cook County Hospital patients as could be traced and made a careful study of their abdominal walls. The survey included bulging, herniation, sensory disturbances, pain or discomfort at the site of the incision. Patients for the review were not selected but examined in rotation. No patients operated upon less than six months are included. It was our aim to examine only 1000 patients for the present report; we feel this is a sufficiently large series upon which to base our conclusions.

Of the thousand cases examined, 602 were females and 398 were males; 318 patients had had upper abdominal and 682 lower abdominal incisions. In this group one patient had had three operations in the lower abdomen through the same scar; eleven had had two exposures through the same incision, six of them of the upper abdomen.

The upper abdominal wound was drained 117 times in this group, the lower abdomen forty-

six times. Twenty-one cases developed various degrees of stitch abscesses during convalescence.

The average hospitalization in the entire series was nine days.

Our postoperative revision gave the following results:

No sensory disturbance was present in the scar in any case. No pain or discomfort was complained of except that four cases reported intermittent itching sensations in the scar without any clinically demonstrable reason therefor.

One female patient had a small bulging (hernia) in the upper angle of her infra-umbilical wound. She had developed a severe infection of the wound and postoperative bronchopneumonia. Repair of her hernia was refused because she had no discomfort.

A hernia of the lower angle of the incision was found in another female patient who had been operated on for subacute pancreatitis and calculi in the gallbladder and hepatic ducts. Drainage had been carried out for a long period with complete recovery from the symptoms. A subsequent operation was performed and the herniation repaired with good results.

We feel certain that our results have been due to observance of such basic factors as:

1. Minimizing traumatism of the abdominal wall by almost total elimination of mechanical retractors and minimal use of ordinary retractors.

2. Constantly decreasing our percentage of drainage cases and increasing our reliance on the protective and reparative forces of the peritoneum.

3. Utilization of the mesial portion of the rectus sheath in closure of the peritoneum when the latter is thin and tears readily.

4. Immediate repair of any peritoneal tear by right angle suture.

5. Coaptation of abdominal wall structures without tension, thus avoiding pressure necrosis and excessive scar tissue formation.

6. Routine use of tension sutures in all paramedian incisions.

7. Absolute hemostasis of the abdominal wall incision before closure; cigarette drain to the peritoneum but not below it in cases of severe capillary oozing.

One of us (P. J. S.) has previously published his study of abdominal incisions based on exhaustive cadaver dissection and review of the



literature. Analysis of postoperative results following various incisions other than the paramedian gave the following gloomy table:

	Per Cent.
38 Supra-umbilical midline incisions—herniations.....	8
57 Infra-umbilical midline incisions—herniations.....	8.7
43 Supra-umbilical transrectal incisions—herniations....	7
Atrophy of rectus fibers.....	15
38 Infra-umbilical transrectal incisions—herniations....	5
Atrophy of rectus fibers.....	15
17 Sprengel incisions .....	29

**Conclusions.** 1. The paramedian incision with lateral retraction of the rectus muscle meets all requirements of the anatomical and physiological ideal.

2. In upper abdominal surgery the "step ladder" type of incision is best.

#### REFERENCE

1. Sarma, P. J.: Anterior abdominal incision. *International Clinics*, Vol. IV, Series 39, Dec., 1929. Lippincott, Pa.
2. Boykin, T. M.: Abominal incisions. *Annals of Surgery*, Vol. LXXXVII, No. I. Jan., 1928, P. 74 to 79. Lippincott, Pa.
3. Ashurst, A. P. C.: Discussion on Boykins paper in the above issue of the *Annals of Surgery*. Pages 136-138.
4. Gossett, A.: Personal communications.
5. Filho, Brandao: La Position verticale. *La Presse Medicale* (N. 76. du 23 Septembre 1931 Paris. (This article describes Gossett's technique.)
6. Moynihan, B. G.: Abdominal operations, Vol. II. Page 31. Fourth Edition, 1926. W. B. Saunders & Co., Philadelphia.

30 North Michigan Avenue.

## SURGICAL TREATMENT OF RUPTURED GASTRIC ULCERS

EMIL JONAS, M. D.  
CHICAGO

There are relatively very few diseases in which the onset may often be very sudden, without any previous symptoms, and the condition may cause death in a short time. A disease of this type is the ruptured gastric ulcer.

No age is exempt from perforation of the stomach. Masteus operated on a six-year-old girl; Keen and Nusser a man of seventy years. There is no part of the stomach which is immune from perforation.

The onset of perforation is without warning, it comes as lightning from a clear sky. There is no relation to food intake. The symptoms are the same as in a ruptured viscus and differential diagnosis is difficult. It is impossible to tell whether it is a ruptured stomach, ruptured appendix, gall bladder or a ruptured ovarian cyst. The patient usually cannot locate the punctum maximum of the pain. The last case

I operated on was a young girl who had never had gastric symptoms previous to the rupture. She located the pain at McBurney's point, which, no doubt, was due to the fact that there was a collection of gastric content in the right pelvic region. Examination usually reveals pain around the umbilicus. It is impossible to locate the point of greatest rigidity because the entire abdomen is rigid. There is no distention of the

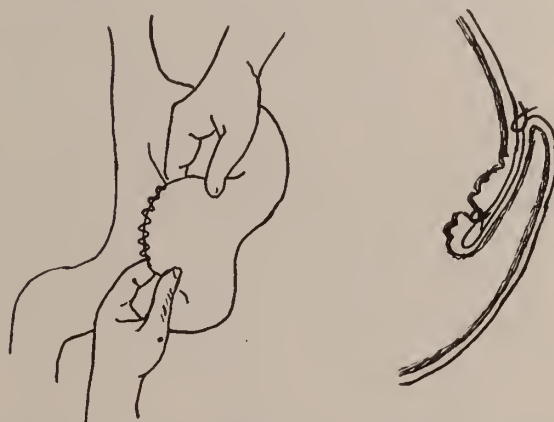


Fig. 1. Grasping the anterior wall of the stomach, folding over and covering the entire surface of the ulcer, using one continuous suture.

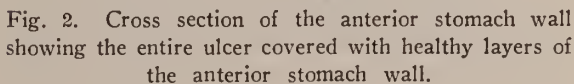


Fig. 2. Cross section of the anterior stomach wall showing the entire ulcer covered with healthy layers of the anterior stomach wall.

abdomen until peritonitis sets in. Respiration is increased, the temperature is below normal, pain is agonizing, and there is board-like rigidity. The pulse is normal at first, especially if morphine has been given when the pain is not localized in the epigastrium. This may be misleading to the surgeon in making his diagnosis and precious time may be lost, increasing the danger to the patient. On rectal examination there is tenderness to the left or right, depending upon which side of the pelvic cavity the greatest amount of stomach content has collected.

The result of operation depends upon the length of time which elapses between the perforation and the operation. A case operated on after the first 24 hours has less favorable prognosis than one operated on within the first 12 to 24 hours.

It is not necessary that the abdominal incision be made in the epigastrium. I prefer the incision above the right rectus beginning just below the umbilicus on the medial side of the rectus muscle. By opening the right rectus sheet I

make a 2-inch incision in the direction of the pubis. This incision has many advantages over the epigastric incision: 1. If the surgeon erred in his diagnosis of ruptured gastric ulcer and if a ruptured appendix, tube, or ovarian cyst is found the incision can be rapidly enlarged downward; if a mucoid, pale yellow fluid is found containing some food particles the incision can be enlarged upward about 2 inches or more, thus making a 4 or 5 inch incision, through which the stomach can be easily explored. The stomach should be pulled down and the lesser curvature examined. By retracting to the left the entire anterior surface of the stomach can be seen. If the foramen of Winslow is closed by adhesions that is indication that there might be an ulcer on the posterior surface which tears in the bursa omentalis. This can be seen by making an incision through the gastocolic ligament below the gastro-epiploic vessels. However, most of the perforations are on the anterior surface. This has been true in all my cases. 2. This incision is excellent from the standpoint of drainage. When the patient is in Fowler's position after the operation, the drain (cigarette) which is placed at the lower pole of the incision in the pelvis drains the pelvis excellently and no suprapubic incision is necessary for drainage. The drain can be removed in 24 hours and the incision heals by primary intention.

The most important consideration in ruptured gastric ulcers is the method of closure of the perforation. When the opening is discovered it must be closed. The question is—how? Some surgeons use purse string sutures, suturing the omentum above the rupture, some use mattress sutures, others do an excision of the ulcer or a gastro-entero-anastomosis. The size of the perforation varies, it is usually not larger than a pencil, but the surrounding tissue is so friable that sutures used in an attempt at closure of the perforation will cut out. The shorter the period of operation the better chance for the patient's recovery. The best operative results are obtained by the simplest closures. Excision of the ulcer makes the operation very hazardous, it does not prevent the recurrence of ulcers and it tends to increase the mortality rate.

It is needless to say too much pro and con gastro-entero-anastomosis. Von Eiselberg, who advocates this procedure, says that it provides against undue tension of the closed perforation

and prevents the danger of formation and perforation of an additional ulcer. It also prevents hemorrhage and promotes recovery where the perforation is in an inaccessible part of the stomach, as the cardia. Opponents of gastro-entero-anastomosis affirm that it is unnecessary, that it jeopardizes the chances for recovery; it does not prevent hemorrhage; it does not insure healing of the present ulcer; and the mortality rate is very high. There are a few surgeons who report a low mortality probably due to the fact that when they performed the operations the patients were in excellent condition. Mayo best answered the controversy when he said that it is fruitless to make an anastomosis when the pylorus is free from obstruction. It is obvious that the simplest procedure is the best for the patient. Mattress sutures take but a few seconds to make and anastomosis at least half an hour. But even the simple mattress suture may be very difficult if the tissues are friable, and if this suture does not hold the patient is lost.

I wish to describe a simple method which I used in my last three cases, all of which recovered completely. I tried this method when I could think of nothing else but how to close the opening, and it proved very satisfactory. All three cases on which this method was used recovered completely. This method is simple because it takes only a few minutes and can be used in any part of the stomach except very near the pylorus or cardia. One case of ruptured stomach which I operated on was a man of 57 years, markedly emaciated, with a 3 plus sugar in the urine. The perforation was found near the small curvature on the anterior surface. It was the size of a finger tip and surrounded with an ulcerous tumor mass the size of a tangerine, covered with fibrinous adhesions. It resembled a carcinoma except that there was no infiltration of the glands. I made many attempts to use a mattress suture, but each time it cut through. I then used a fine silk purse suture, beginning  $\frac{1}{2}$  cm. from the perforation, leading the suture superficially between the peritoneum and muscular coat of the stomach. By this purse suture it is always possible, by very gentle pull to approximate the edges of the perforation without trying to invaginate, which would cause the suture to break through. I then took a large fold of the stomach, almost one-third of the anterior wall of the healthy part of the stomach



and sutured with continuous sutures on the top of the ulcerous area, working always in healthy tissue 1 cm. away from the callous mass, covering this area with an incomplete half circle of healthy stomach wall. I have used this method of purse suture and then covering the ulcerous area with a half circle of healthy stomach wall in two more cases with uneventful post-operative recovery.

I believe this method can be used in any section of the anterior wall of the stomach. I have not had an opportunity to try it on the posterior wall.

Many advantages are evident in this type of closure of ruptured stomach. The suturing takes only a few minutes. The occurrence of a second rupture in the same place is prevented. This is better than any other method used because the ruptured area is protected by an entire reticulum of healthy stomach wall consisting of all the layers of the stomach. As can be seen on fluoroscopic there is no functional disturbance. The advantage over anastomosis or excision is that there is no new field of infection opened and there is no risk of the patient's life. No adhesions can be formed between the anterior wall of the stomach and the abdominal wall or surrounding organs. The operation is almost bloodless.

Anatomical knowledge is necessary not to use the curvature major or minor for making the flap, because here the blood vessels are located, and hemorrhage might result or there might be an interference with the blood supply to the stomach.

The patients feel immediate relief after operation, unless, of course, a peritonitis has set in, which happens only if the patient has been allowed to go too long without surgical interference. In the last which I operated on it was not even necessary to administer narcotics for relief of pain post-operatively.

Case 1. Mr. W. M., aged 30 years. Gastric ulcer diagnosed 3 years previously. Had frequent attacks of epigastric pain relieved by taking soda. Had been feeling perfectly well when seized with sudden, sharp, excruciating pain in epigastrium. He was brought to the hospital and operated on two and one-half hours later. There was board-like rigidity of the abdomen with fluid in the left flank and pain on deep palpitation just below the sternum. The temperature was 97.8°, pulse 70 and respiration 20. Leukocyte count was 19,100. Laparotomy revealed ruptured gastric ulcer on

the lesser curvature of the stomach with a perforation about 3 mm. in diameter with a callous ulcerous area about 2 inches in diameter around the perforation. There was a large quantity of gastric content free in the abdominal cavity. The perforation was closed by use of a purse string suture and overlapping of healthy stomach wall. One cigarette drain was used in the lower pole of the incision. This was removed on the second day. The patient was placed in Fowler's position. Fluids were supplied by hypodermoclysis and proctoclysis on the first two days. The third day fluids were begun by mouth. The wound healed with a slight amount of granulation. The post-operative course was complicated by bronchopneumonia from which the patient completely recovered. There were no abdominal complications.

Case 2. Mr. E. Z., aged 57 years. Had had epigastric pain for three years coming on after meals. It had gradually been getting worse. Had been feeling fairly well when he was suddenly seized with severe, excruciating pain. He was brought to the hospital and operated on six hours later. There was board-like rigidity of the abdomen especially in the epigastric region. The urine contained 3 plus sugar. 25 c.c. of U 40 insulin was given one-half hour before operation. A high midline incision was made and a perforation the size of a finger tip was found high on the lesser curvature of the stomach. The abdomen contained a large amount of stomach contents. There was an ulcerous area about 2 inches in diameter around the perforation. The tissue was very friable. There were numerous fibrinous adhesions around the omentum and gall bladder. Attempts to use mattress sutures were unsuccessful. Purse suture and folding of healthy stomach wall over the ulcerous area was done. The fluid was removed from the abdominal cavity by suction. One cigarette drain was used and was removed on the 2nd post-operative day. There was a trace of sugar in the urine the first day after operation but thereafter it was negative. Treatment was the same—Fowler's position, nothing by mouth for the first three days, normal saline and glucose subcutaneously. The post-operative course was uneventful, the wound healed nicely and the patient recovered completely.

Case 3. Miss D. B., aged 19 years, was seen suffering severe pain in the right lower quadrant of the abdomen, of one-half hour's duration and nausea and vomiting of two hours duration. She had had slight pain and belching after the evening meal for the past week, but no other symptoms at any time. The temperature was 97.2°, pulse 92, respirations 26. Leukocyte count was 9,600 with 84% polymorphonuclears. The patient was brought to the hospital and an emergency laparotomy performed. Incision was made to the right of the midline below the umbilicus. On opening the abdomen a pale yellow, mucoid fluid, apparently stomach content, was encountered. The incision was extended upward and on exploring the stomach a perforation was found on the anterior surface of the stomach near the pylorus. Purse suture of catgut and



three Lembert interrupted sutures and one mattress suture were used to approximate the edges of the perforation. A flap of the anterior wall of the stomach was then brought over the area of the perforation and a half circle of healthy stomach tissue fixed by continuous sutures. The fluid was removed from the abdominal cavity by suction. A cigarette drain was placed in the lower pole of the incision. The patient was placed in Fowler's position. The drain was removed on the second day following operation. Nothing was given by mouth until the fourth post-operative day, fluids were supplied by hypodermoclysis. The temperature reached a maximum of 101° on the fourth day. The sutures were removed on the thirteenth day, the wound healing by primary intention. Convalescence was uneventful.

### THE DIAGNOSIS OF A FETAL MONSTER IN A CASE OF POLYHYDRAMNIOS BY MEANS OF A PRENATAL ROENT- GENOLOGICAL EXAMINATION

M. L. WEINSTEIN, M. D. and H. COTELL, M. D.  
CHICAGO

In a great majority of cases reported in the literature, fetal malformations have been found either during or following difficult and abnormal labors. Few have had the benefit of a prenatal roentgenological examination. Nearly all of them have been associated with either hydramnios or oligohydramnios.

James T. Case (1917)<sup>1</sup> reported the first case of anencephaly which was discovered by means of a prenatal roentgenological examination. Naujuko (1928)<sup>2</sup> reported one case and W. O. Weiskotten (1933)<sup>3</sup> reported three cases of hydramnios in which a prenatal roentgenological diagnosis of anencephaly was made. S. Lubin of Brooklyn (1932)<sup>4</sup> reported a double monster and Jos. L. Baer<sup>5</sup> and R. A. Riess of Chicago described a rare case of symphys apus, resulting from pathological pregnancies. In both instances the monsters were discovered during labor and neither of them had a prenatal roentgenological examination. A review of the literature for the past ten years discloses that hundreds of abnormal pregnancies, many of which resulting in fetal malformations, have been denied the benefits of a prenatal roentgenological examination.

The average case of polyhydramnios usually yields over 2,000 cc. of amniotic fluid. Besides the frequent case of a slight increase in the amount of amniotic fluid which passes un-

noticed, we infrequently encounter one in which the quantity of the liquor amnii reaches over 1,500 cc. According to J. O. Polak<sup>6</sup>, polyhydramnios is found in 1:100 pregnancies, while those of more severity occur in 1:300 cases. Jos. B. DeLee<sup>11</sup> gives the same estimated ratio.

Various theories have been offered to explain the primary origin of the liquor amnii, and the reasons for its abnormal formation and influence on the course of a pregnancy and fetal development. Wohlgemuth and Masone<sup>7</sup> stated that liquor amnii is a transudate from the maternal blood vessels into the uterine cavity. It is therefore formed in excessive quantities in maternal diseases, such as hydremia or general anasarca, which may result from nephritis or cardiac decompensation. Polano asserted that amniotic fluid was secreted by the amniotic epithelium. Cohenstein and Zuntz<sup>8</sup> and also Ahlfeld<sup>9</sup> proved conclusively that the pressure in the fetal kidneys was insufficient for urinary excretion; thus they helped to disprove the theory that fetal urine contributed to the composition of the liquor amnii. Therefore, the origin of the liquor amnii still remains an unsolved mystery. According to Keim,<sup>10</sup> the quantity of the amniotic fluid gradually increases up to the seventh month of gestation; it then steadily decreases until at term, when there is usually just enough fluid to fill the spaces between the irregular contour of the fetus and the walls of the uterine cavity.

The composition of the liquor amnii consists in addition to fluid, of an accumulation of exfoliated epidermis, sebaceous matter and lanugo hair from the fetal skin; all of which we call vernix caseosa. It also contains some cholesterolids and glycerids, secreted by the amniotic epithelium and some leucocytes and unclassified cells. If the fetus dies, the liquor amnii often becomes blood-stained. In cases of asphyxia, the amniotic fluid is usually thick and green, due to admixture of meconium.

Fetal diseases and abnormalities may cause marked increase in the amount of liquor amnii. Joseph B. DeLee<sup>11</sup> enumerates the following:

1. Abnormal persistence of the vasa propria, immediately underlying the amnion. These are usually present in the early months of gestation.
2. Abnormal pressure on the cord due to obstruc-

tion to the umbilical circulation, caused either by vicious insertion, tortuous or knotted cord or by luetic cirrhosis of the liver.

3. Fetal diseases of the heart and lungs, such as aortic stenosis, pneumonia alba, etc.

4. Unioval twins.

5. Monstrosities and other fetal deformities, such as spina bifida, pyloric stenosis and occlusion of the esophagus.

Since polyhydramnios is almost invariably associated with fetal malformations or maldevelopments, the finding of such a condition should always induce the clinician to attempt to exclude the presence of a possible monster.

Single monsters are the most common in occurrence. DeLee<sup>11</sup> found them to have an hereditary tendency, which he presumes to be either germinal or inherent in the ovum. He found the same peculiar deformity in several generations or members of the same family. He also stated that shock, worry and deprivations may produce vascular and nutritional disorders

inflammatory processes of the uterus or ovum as the cause of fetal malformations. Von Recklinghausen,<sup>15</sup> the first to describe spina bifida, attributed the cause of anencephaly to the faulty closure of the primitive neural arch. The best recent classification of anencephalus was the one described by Mandruzzato,<sup>16</sup> who quoted the findings of Bauer. He stated that hydrocephalus produced not only anencephalus but



Fig. 1. Lateral view, showing acranial monster with complete abdominal eventration and cystic umbilical cord

in the endometrium which may seriously affect the growth of the fetus. Haller<sup>12</sup> asserted that external trauma, resulting in injury to the abdomen or uterus, may cause structural deformities of the fetus. Dareste<sup>13</sup> and also Lebedeff<sup>14</sup> observed that monstrotic genesis was due to arrested development of the ovum during the blastula or morula stages, caused by thermic, chemical or other physical agents. Mall found



Fig. 2. Showing right club foot, meningocele, shortened spinal column and flattened nose

also a spasm of the cervical muscles. These muscular contractions cause an opening of the bones with the fulcrum under the atlas; and, secondarily, an absence of the neck and the union of the chin with the breast. This latter deformity is apparent in our case presented forthwith (Fig. 1).

The diagnosis of polyhydramnios is based on the findings of an acute or gradual increase in the size of the uterus out of proportion to the period of gestation. This is usually accompanied by a permanent uterine tension, which in acute cases may be very painful due to its sudden appearance. In extreme cases the abdominal distension is so enormous that the uterine outline may be lost and its size may become limited only by the capacity of the abdomen. These cases usually terminate by spontaneous abortion. The patient usually complains of general pressure symptoms, such as dyspnea, epigastric or precordial discomfort, distress and marked incapacity, with or without swelling of the limbs. There may be preternatural or convulsive fetal mobility with excessive



external ballotment. The fetal heart tones are usually dulled and, in extreme cases, may be difficult or even impossible to elicit. The fetal head or small parts may seem absent on palpation in the case of monstrosity. On bimanual examination we may find a patulous external os; and in extreme cases the external cervical os may become obliterated. An anencephalic

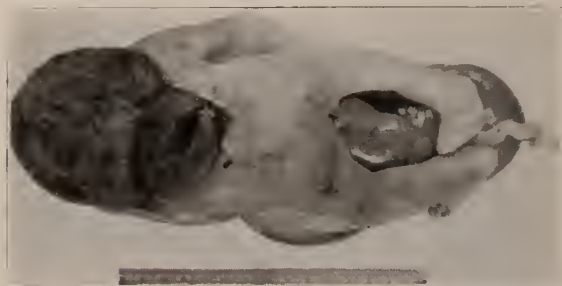


Fig. 3. Posterior view, showing absence of the neck, meningocele, right club foot and absence of cervical portion of spine

monster may present abnormal findings on bimanual examination and be confused with placenta previa, face or breech presentation. Polyhydramnios is most commonly confused with twins, ovarian cysts and ascites. Joseph B. DeLee advises roentgenological examinations of all cases of suspected twins or any case with questionable findings, especially if there is a family history of previous fetal malformations. This will serve to exclude anencephalic and other monsters.

Obstetrical x-ray examinations are becoming a routine in many lying-in-hospitals, clinics and in the work of many obstetricians. It is so in our practice for the past fifteen years. An obstetrical roentgenological examination suffices to make a positive diagnosis of pregnancy in doubtful cases. It helps to distinguish single from multiple gestation, and affords accurate information as to the position of the fetus and its relationship to the size of the pelvis. An expert may distinguish a dead fetus by noting the changes in the fetal skeleton, such as overlapping of the cranial bones. Fetal bones have been shown as early as the twelfth week and may be demonstrated with few failures during the 20th week and thereafter. In order to obtain a good picture, great detail and contrast are desirable. The patient should be prepared

for the examination, which we usually do at the end of the thirtieth week, by the administration of an enema and by emptying of the bladder. A Potter-Bucky diaphragm should always be used, and a 14x17 film is necessary. The suspension of respiration during the exposure is essential. A direct anterior-posterior position is best, with the rays directed from above in the sagittal plane. The central ray should be directed into the pelvis 5 cm. posterior to the upper border of the symphysis pubis.

While the prognosis of hydramnios is usually favorable to the mother, except in rare extreme instances, it is not so to the child. The fetus is usually premature. According to Polak the fetal mortality is usually 75 per cent. The monster is usually stillborn or dies within a few hours or days following delivery. It is therefore quite



Fig. 4. Prenatal radiograph showing defect of cervical vertebrae and undeveloped head in 30th week of gestation

important to determine its presence early. The x-ray is the most reliable method in the diagnosis of fetal malformations in an abnormal pregnancy.

The treatment of polyhydramnios should be symptomatic and expectant. It usually suf-



fices to have the patient rest in bed until the membranes have ruptured, and the head is engaged so as to prevent a prolapse of the cord. If there is a rapid overdilatation of the abdomen which causes alarming pressure symptoms, induction of labor by puncturing of the membranes may be advisable. In doing so, the liquor amnii should be allowed to drain slowly in order to prevent shock and postpartum hemorrhage. During labor, the treatment is expectant. Operative procedures other than version or perforation are unnecessary, as the fetus is commonly non-viable in cases of great amniotic distention or of complex monstrosities. In our case, the small size of the fetus and the apparently good health of the mother warranted no radical interference until the second stage of labor.

Report of Case: Mrs. E. B., white, aged 28 years, primipara, gave a history of general debility in 1928. A thorough physical examination at that time was negative, except for a secondary anemia, weakness, and loss in weight. She improved on the administration of physiotherapy and some tonics. Her mother was operated on a year ago for carcinoma of the cervix and improved considerably. Otherwise her past and family history revealed nothing of importance. Her last menstrual period occurred on February 20, 1932, and on physical examination two months later her estimated date of confinement was set for November 27, 1932. A thorough physical examination on May 17 revealed her to be in good health. Her blood pressure was 120 systolic and 80 diastolic. Weight was 113 lbs. A chemical and microscopical examination of her urine showed normal findings. Subsequent semimonthly examinations revealed normal progress of her pregnancy. On October 7, she came in complaining of rapid abdominal distention with pressure symptoms. An examination at that time revealed an acute hydramnios of moderate severity. Rectal examination revealed a patulous external os with a dilatation of about 2 cm. The abdomen was markedly distended, tense and tender to palpation. The fetal heart tones were audible, regular, but somewhat indistinct. A pelvic x-ray examination the same day showed a deformed, abnormally small fetal skeleton with a poorly developed spinal column, especially of the cervical vertebrae. There were no other abnormal findings in the mother. The patient was, therefore, sent home and was advised to stay in bed until signs of labor appeared. Five days later she entered The Chicago Memorial Hospital, with spontaneous rupture of the bag of waters, following mild labor pains for about one and a half hours. On examination at the hospital the pains were of moderate severity, occurring every four minutes and lasting about one half minute. Her abdomen was soft and small. The fetus was unusually small and in vertex position. Atypical findings on

rectal examination suggested a face presentation and a complete dilatation of the cervix. A vaginal examination under anesthesia disclosed a right occipitonto-posterior presentation of an acranial monster. Manual rotation of the head and extraction with low forceps were successfully accomplished. Fetal heart tones stopped just before extraction was attempted. The monster was stillborn. It was prematurely born at about the thirtieth week of gestation, weighed three and one-half pounds and measured 22 Cm. (Fig. 2-3). Pathologically, we may call it craniorrhachischis hypogastroschisis. The cranial vault was incompletely closed (Fig. 2). The neck was absent with the chin resting on the sternum (Fig. 1-2). There was a meningocele of the cervical spine (Fig. 3), an absence of the nasal bones and a complete abdominal eventration with a cystic umbilical cord (Fig. 1 and 2). It was a female monster. The placenta was likewise small. It was expelled easily and there was no postpartum hemorrhage. A postmortem examination of the fetus was refused by the parents. The mother made an uneventful recovery and is now in perfect health.

#### BIBLIOGRAPHY

1. James T. Case: Surg. Gynec. and Obst. March, 1917, 24: 312.
2. Naujuka, H.: Zentralb. f. Gyna kol. 52: 1818-1823. July 21, 1928. Roentgenological diagnosis of anencephaly in the presence of hydramnios.
3. Weiskotten, W. O.: Radiology, Vol. XX, Jan., 1933. Early Recognition of Anencephaly with Report of Three Cases.
4. Lubin, S.: Am. J. Obst. & Gynec., 23: 422. March, 1932. Report of Double Monster—Ischiopagus.
5. Baer, Jos. L. & Riess, R. A.: Am. J. Obst. & Gynec. 23: 749. May, 1932. Report of a Case of Sympus Apus. A Rare Fetal Anomaly.
6. Polak, J. O.: Manual of Obstetrics. Physicians and Surgeons Book Co. 19. 1928. pp. 243.
7. Wohlgenuth & Mason: Arch. f. Gynec. u. Geb. 94: 381 July, 1911.
8. Cohnstein & Zuntz: Pflüger's Arch. 34: 173.
9. Ahlfeld: Lehrbuch der Geb. p. 44, 1903.
10. Keim: Paris Obstetr. Soc. 1901.
11. DeLee, Jos. B.: Principles and Practice of Obstetrics, Saunders.
12. Haller, A.: Puschula Anatomica. Gottingae 1751. pp. 240.
13. Dareste, J.: Compt. rend. Acad. de Sc. 89: 1402, 1877.
14. Lebedeff: Virchow's Arch. 86: 269, 1890.
15. Von Recklinghausen: Virchow's Arch. 105: 301, 1886.
16. Mandruzzato, F. A.: Am. J. Surg., 16: 104. April, 1932. Embryogenesis of Anencephaly and Spina Bifida.

#### STUDY OF MEDICINE IN AUSTRIA

According to advices received from the Medical Faculty of the University of Vienna, there does not exist in Austria an actual license to practice medicine, the conducting of the medical practice depending on the possession of the doctor's diploma of an Austrian university and the proof of the Austrian citizenship.

Foreign students in Austria, on termination of their study—which is the same as for Austrians—receive the same doctor's diploma as Austrians do, with the exception that on diplomas given to foreign students a stamp is being affixed stating that without the proof of the Austrian citizenship the student is not allowed to practice in Austria.—*Jour. Assoc. Am. Med. Colleges*, May, 1933.

### DOCTOR OR SPECIALIST

"A good doctor is made of a well-educated man who feels deeply the needs of the sick and believes himself called to live and work for their cure and the prevention of the same diseases in the well. This consecrated man must be educated in all that the labors of medical men in the past have discovered and be guided onward to the very boundary of our exact science and into the disputed territory of ignorance and perhaps of superstition. These excursions should be led by a veritable medical scout who has in practice all the arts of pioneering, adventure and discovery. The motive for all these efforts in education should be constantly kept prominent, and the forgetful medical student should be tripped by his teacher into perpetual consciousness that it is the duty of the doctor to his patient."—*Bayard Holmes*.

All half-baked or other underdone specialists should be exterminated. No physician has a right to that title unless he has been trained to avoid the pitfalls and dangers which may imperil the health and life of his patient. It is nothing short of a crime to turn a patient over to an uninstructed and ignorant novice and tell him to "go ahead and operate." Just so long as such a state of things exists, and unfortunately such a state does exist here and now, just so much worse it is for specialism and for the patient. Let every man have at least three years of varied training in general practice, let him devote all his time and energy to learning a specialty under a competent instructor for at least one year, then submit him to a test ("Regents," or Council of his Fellows), and we shall have specialists who are not an everlasting discredit to the profession.—*Irving Wilson Voorhees*.

### THE FUNCTION OF A MEDICAL SOCIETY

A Medical Society is not a trade union, a business organization, nor a conference devoting its time to a discussion of hours, pay, cost, competition, restraint, or finance. It is an organization of men gathered together that they may better serve the public by keeping abreast of the times through the exchange of experience and the work of others. The work of the medical society is to make bigger, broader, kindlier men—men who can go out from its meetings not only more skilled and learned in their science, but more worthy the respect and confidence the degree Doctor of Medicine should bring. The medical society asks that men engaged in God's noblest calling work one with another and not one against another. It stands for honesty, truthfulness, progress, unity, and self-betterment that we may be better practitioners of our art and better men.—*Slyster*.

### MATERNAL MORTALITY

"It is a strange thing that many intelligent people, both within and outside the medical profession, seize upon the notion that the United States has the highest maternal death rate in the world and shout from the housetops their implicit faith and belief in that statement. The gross statistical tables indicate that the

statement is true. An analysis of all the factors involved in computing the statistics shows that it is not true. It is one thing to run through a column of numerals set opposite a list of various causes of death. It is quite another to examine one by one the certificates of death and to bring into the picture the various factors and circumstances involved in each death. The two methods frequently lead to surprisingly different conclusions."—Hall, Andy. Maternal mortality and common sense. *Illinois Medical Journal*, December, 1932.

### WHAT SURGERY OWES TO LISTER

It would be useless to put here a long account of the misery and peril of compound fractures, wounds, operation cases, and maternity cases, in the year before "Listerism" came into general use. "Those of us who are old need not be reminded of it; and those of us who are young saw nothing of it." "The tragedy is too great for words: it was the burden of all military surgery, all hospital and private practice, all midwifery, in every city on earth for centuries."—*Stephen Paget*.

### THE DISTRIBUTION OF PHYSICIANS IN VARIOUS COUNTRIES

The following statistics on the numerical relations of the physicians to the population, in various countries, have been taken from the journals of Germany and the Netherlands: In Austria there is a physician for every 837 inhabitants (in the capital, 520); in Spain, for every 1,000 inhabitants; Canada, 1,066 inhabitants (968); Great Britain, 1,069 (955); Hungary, 1,100 (300); Switzerland, 1,140; Greece, 1,166; Cuba, 1,170; Germany, 1,237; the United States, 1,326; Palestine, 1,333 (603); Denmark, 1,346; Estonia, 1,411; Netherlands, 1,417 (1,250); Danzig, 1,428; Belgium, 1,460; Latvia, 1,461 (487); Norway, 1,555 (600); France, 1,596 (630); Czechoslovakia, 1,666 (533); Luxemburg, 1,666 (1,250); Uruguay, 1,666; Portugal, 2,333; Sweden, 2,660; (1,427); Brazil, 2,666; Rumania, 2,879; Bulgaria, 2,900; Poland, 3,100, and Yugoslavia, 3,549.—Belgium Letter, March 11, 1933.—*Jour. A. M. A.*, May 13, 1933.

### "WE" OR "THEY"

One man, in speaking of his lodge will always think of it in terms of "we." "Down at our lodge we do so and so! We are making such and such progress."

Another man will speak of his lodge in terms of "they." "Why don't they do this," and "If only they would do that."

"We" is inclusive and shows a real, live interest. "They" is exclusive, and ere long excludes the man who uses it.

"We" indicates that one belongs heart and soul. "They" signifies that one considers himself an outsider looking in.

Don't be a "They" man. Be a "We" man.

Even the little rivet which holds the steel girder in place can say, "We make this building."

The world moves forward because of "We" men and women.—*Virginia Masonic Herald*.



## EVERY ETHICAL PHYSICIAN IN THE STATE SHOULD BELONG TO THE ILLINOIS STATE MEDICAL SOCIETY

In numbers there is strength. United we stand, divided we fall. A united medical profession can brush away any and all obstacles. It is next to impossible to find a really successful physician who has obtained fame outside the pale of organized medicine.

Are all the eligible physicians in your county members of your local medical society? If non-members of local society are discovered get busy and try to induce them to join at the earliest opportunity.

Since the publication of the last edition of the

national medical directory, one thousand or more recent graduates and practitioners from other states have located in cities in Illinois. Great numbers have moved within the state from one city to another; an alarming number of physicians have died in the interim; hundreds have moved to other states and a similar number have come into Illinois from other commonwealths.

Below we publish as nearly as possible correct and up-to-date list of physicians residing in towns and cities in Illinois outside of Chicago and Cook County. No attempt had been made to indicate membership in local, state or national medical societies.

The final list of doctors residing outside of Cook County will appear in the forthcoming issue.

### JOLIET (WILL)

- Adelmann, Herman Jos., 810 N. Raynor Ave.; office, 108 N. Chicago St.  
 Ahlvin, Reno Arthur, 211 Nicholson St.; office, 415 Western Ave.  
 Andrew, Lloyd Brumund, 218 Farragut Pl.; office, 500 N. Ottawa St.  
 Arnold, Romus, (Braidwood); office, 405 Jefferson St.  
 Barclay, Chas. Kenny, 413 High St.; office, 114 N. Chicago St.  
 Barrick, Roy Gilmore, 404 Nicholson St.; office, 1900 Collins St.  
 Beckwith, Henry M., 325 Buell Ave.; office, 114 N. Chicago St.  
 Benischek, Maria Anna, 810 N. Raynor Ave.  
 Benischek, Werner Lothar, 810 N. Raynor Ave.; office, St. Joseph's Hospital  
 Blachly, Frank L., 119 N. Chicago St.  
 Bloomfield, Mat., 817 Mack St.; office, 108 N. Chicago St.  
 Bowles, Marion K., 107 Richards St.  
 Brannon, Londus, 313 Richards St.; office, 406 Clinton St.  
 Brown, Raymond Saml., 719 Oneida St.; office, 204 Scott St.  
 Carey, James Campbell, 110 S. Eastern Ave.; office, 500 N. Ottawa St.  
 Carey, John Francis, 806 Cornelia St.; office, 500 N. Ottawa St.  
 Carlin, Chas. John, 813 Williams St.; office, 208 Scott St.  
 Carr, Orcutt Nathan, 704 Oneida St.  
 Chmelik, Frank Jos., 202 Buell Ave.; office, 118 N. Chicago St.  
 Cohenour, Vincent Jacob, 308 Union St.; office, 201 N. Chicago St.  
 Courtney, John F., 800 Western Ave.; office, 114 N. Chicago St.  
 Curtiss, Chas. R., 502 Glenwood Ave.; office, 118 N. Chicago St.  
 Davis, Oliver C., 403 Richards St.; office, 323 Jefferson St.  
 Duffy, Jos. Eugene, 213 N. Hickory St.; office, 200 N. Center St.  
 Eldred, Chas. Dudley, 403 S. Eastern Ave.; office, 108 N. Chicago St.  
 Erickson, Hilding Walfred, 104 Virginia St.; office, 320 Rialto Sq.  
 Fahrner, Arthur Herman, 1004 N. Raynor Ave.; office, 200 N. Center St.  
 Fahrner, John, 104 Jersey Ave.; office, 200 N. Center St.  
 Fahrner, Walter J., 709 Douglas St.; office, 415 Western Ave.  
 Faulkner, Geo. Edward, 127 Comstock St.; office, 547 S. Chicago St.  
 Fitzbutler, James Henry (col.), 924 Collins St.  
 Fletcher, Wm. R., 401 N. Chicago St.  
 Flexer, Howard Norton, R. D. 4.; office, 106 N. Chicago St.  
 Flowers, Jos. C., 600 Western Ave.  
 Francis, Frank Doig, 608 Oneida St.  
 Frederick, Louis J., 420 Richards St.; office, 114 N. Chicago St.  
 Heintz, Leslie Jos., 707 Western Ave.; office, 108 N. Chicago St.  
 Higgins, Edward J., 606 N. Raynor St.; office, 404 Clinton St.  
 Houston, Alfred M., 815 N. Raynor Ave.; office, 201 N. Chicago St.  
 Houston, Grant, 102 Buell Ave.; office, 114 N. Chicago St.  
 Huey, Walter Bayard, 704 Western Ave.; office, 404 Clinton St.  
 Ivec, Martin J., 114 Buell Ave.; office, 900 N. Chicago St.  
 Jackson, Nicholas J., 515 S. Chicago St.  
 Johnson, Tensing S., 306 Buell Ave.; office, 415 Western Ave.  
 Kennedy, Raymond James, 709 3d Ave.; office, 103 S. Ottawa St.  
 Killinger, Donald Wm., 300 Farragut Pl.; office, 204 Scott St.  
 Kimball, Jos. Carl, 112 Arch Ct.; office, 222 N. Chicago St.  
 Klein, Bernard, 922 N. Raynor Ave.; office, 108 N. Chicago St.  
 Klemme, John J., Oliver Hotel  
 Krohn, John Wm., 802 Buell Ave.; office, 404 Clinton St.  
 Landmann, Paul Emanuel, 418 E. Clinton St.; office, 500 N. Ottawa St.  
 La Piana, Francis, 823 Cornelia St.; office, 315 Jefferson St.  
 Lennon, Robt. Watson, 118 Whitney Ave.; office, 108 N. Chicago St.  
 LeSage, Philip, 703 Western Ave.; office, 200 Jefferson St.  
 Lofdahl, Geo. Aleck, 909 Water St.; office, 500 2d Ave.  
 Longwell, Chas. Wm., 624 Clinton St.  
 Major, John C., 100 Manor Ct.; office, 403 W. Marion St.  
 Mayer, Edward John, Jr., 1200 N. Raynor Ave.  
 McGinnis, Phillip D., 226 Gardner St.; office, 547 S. Chicago St.  
 McKenzie, Ray Donald, 103 S. Nicholson St.; office, 500 N. Ottawa St.  
 McRobert, Wm. Alexander, May and Hutchins Sts.; office 405 Jefferson St.  
 McSweeney, Wayne Stephen, 606 Elgin Ave.; office, 406 Clinton St.  
 Misischia, Cosmo, 1403 Collins St.  
 Mitchell, John Ross, 103 Knox Pl.; office, 204 Scott St.  
 Munch, Louise Lucy, 104 Cagwin Ave.; office, 108 N. Chicago St.  
 Muncy, John Woolwine, 823 Cass St.  
 Palm, Walter Gilbert, 415½ Plainfield Ave.  
 Patterson, Harris Adair, 208 W. Marion St.; office, 315 E. Jefferson St.  
 Reilly, Wm. Stanley, 713 4th Ave.; office, 119 N. Chicago St.  
 Roberg, Fredk. Emanuel, 409 N. Ottawa St.; office, 114 N. Chicago St.  
 Sellards, Abram Goebel, 111 S. Eastern Ave.; office, 1501 Collins St.  
 Seron, Vaheh M., 1200 N. Raynor Ave.  
 Shreffler, Arthur Lee, 1212 Western Ave.; office, 500 N. Ottawa St.



Shroba, Raymond Victor, 113 California Ave.; office, 923 Collins St.  
 Shutack, John, 702 Herkimer St.; office, 1408 Collins St.  
 Stanton, Frank W., 408 Glenwood Ave.; office, 114 N. Chicago St.  
 Stoen, Earl R., 308 Sterling Ave.; office, 106 N. Chicago St.  
 Stephen, Herman Ernest, 105 Cagwin Ave.; office, 114 Chicago St.  
 Stewart, Lena Madge, 404 E. Eastern Ave.; office, 500 N. Ottawa St.  
 Struzynski, Wladislaus M., 704 N. Chicago St.  
 Talbot, Edwin Robt., 504 Wilcox St.; office, 108 N. Chicago St.  
 Viscocil, Emil James, 106 N. Chicago St.  
 Wadsworth, Harold Vivian, 1427 N. Prairie Ave.; office, 204 Scott St.  
 Wagner, Thos. H., 209 Sherman St.; office, 204 Scott St.  
 Ward, Stephen Pierce, 626 Clinton St.; office, 822 Cass St.  
 Watson, Royal Latham, 705 2nd Ave.; office, 108 N. Chicago St.  
 Welch, Wm. Blackwood, Midland Ave.; office, 208 Scott St.  
 Wilcox, Bert, Geo., 203 West Park Front; office, 204 Scott St.  
 Wilbelmi, Lawrence John, 108 West-acre Rd.; office, 204 Scott St.  
 Williams, James Fredk. (col.), 609 E. Marion St.; office, 110 E. Jefferson St.  
 Williams, Thos. Blase, 623 S. Chicago St.  
 Wilson, Wm. Henry, 810 Cowles Ave.; office, 204 Scott St.  
 Woodruff, Geo. Francis, 207 N. Broadway; office, 500 N. Ottawa St.  
 Woodruff, Geo. Henry, 1201 Western Ave.; office, 500 N. Ottawa St.  
 Woodruff, Harry W., 1201 Western Ave.; office, 500 N. Ottawa St.  
 Woodruff, Lewis Wheeler, 1201 Western Ave.; office, 500 N. Ottawa St.  
 Worthley, Herbert Saml., 312 Richards St.; office, 116 N. Chicago St.

#### JONESBORO (UNION)

Lence, John J.  
 Nusbaum, John L.  
 Radcliff, Ernest  
 Rembe, Boyd C.  
 Whiteside, Robt. L.

#### JOPPA (MASSAC)

Jacobs, Robt. H.

#### JOY (MERCER)

Haly, Saml.  
 Miller, Wilbur Archie

#### JUNCTION (GALLATIN)

Mershimier, Wm. C. (See Shawnee-town)

#### KAMPSVILLE (CALHOUN)

Woltmann, Fredk.

#### KANE (GREENE)

Krohn, Henry Walter

#### KANKAKEE (KANKAKEE)

Asselin, Geo. Francis, Kankakee State Hospital.  
 Ayling, Gilbert Haven, 512 S. Chicago Ave.; office, 258 E. Court St.

Bedard, Ulric A., 1164 E. Maple St.; office, 219 E. Court St.  
 Bergeron, Eugene D., 616 S. Chicago Ave.; office, 181 E. Court St.  
 Bergeron, Victor A., 763 S. Evergreen St.  
 Brown, John Archibald, 925 S. Chicago Ave.; office, 189 E. Court St.  
 Brown, Robt. Dwight, 313 N. 6th Ave.; office, St. Mary's Hospital  
 Bundy, Herman Winford, 629 S. Harrison Ave.; office, 258 E. Court St.  
 Cannon, Wm. Patrick, 581 S. Schuyler Ave.; office, 189 S. Schuyler Ave.  
 Cass, John Lovell, Kankakee State Hospital  
 Cohn, Wm., Kankakee State Hospital  
 DeLavernne, H. Eugene, 934 Lincoln Ave.  
 Eshbaugh, Aaron S., 1235 E. Merchant St.; office, 189 E. Court St.  
 Geiger, Chas. Willard, 989 S. Chicago Ave.; office, 189 S. Schuyler Ave.  
 Gier, Jacob Benj., Kankakee State Hospital  
 Gillette, Philip F., Kankakee State Hospital  
 Goodwin, Andrew J., (Bradley); office, 189 S. Schuyler Ave.  
 Greenman, Ernest Nelson, 1151 E. Court St.; office, 189 S. Schuyler Ave.  
 Guertin, Jos. A., 147 N. Evergreen Ave.; office, 258 E. Court St.  
 Hamilton, Edwin S., 585 S. Chicago Ave.; office, 258 E. Court St.  
 Hamilton, Fred. C., 986 E. Court St.; office, 258 E. Court St.  
 Hartman, Henry Albert, Kankakee State Hospital.  
 House, Arthur N., 570 S. Harrison Ave.; office, 189 E. Court St.  
 Hoverson, Emil Theodore, Kankakee State Hospital.  
 Hunter, James Richard, Kankakee State Hospital  
 Irwin, Geo. Earle, 1077 Cobb Blvd.; office, 189 E. Court St.  
 Lane, Shirley Wm., 230 S. Chicago Ave.; office, 189 S. Schuyler Ave.  
 Langlois, Harvey Louis, 991 S. Lincoln Ave.; office, 189 S. Schuyler  
 Madden, John Jos., Kankakee State Hospital  
 McCarthy, Harriet Cecilia Schwartz, Kankakee State Hospital  
 McCool, Dick Cauthen, Jr., Kankakee State Hospital  
 Morrow, Geo. Wm., Kankakee State Hospital  
 Nickerson, Anson LeRoy, 733 S. Greenwood Ave.; office, 258 E. Court St.  
 O'Laughlin, Danl. Jos., 728 Cobb Blvd.; office, 189 E. Court St.  
 Phelps, G. M., 196 N. Harrison Ave.  
 Rayer, Kenneth Nichols, 1033 S. Chicago Ave.; office, 260 E. Court St.  
 Roth, Jesse Henry, 807 Cobb Blvd.; office, 189 S. Schuyler Ave.  
 Smith, Chas. Kenneth, 859 S. Chicago Ave.; office, 189 E. Court St.  
 Spencer, Orson Bailey, 162 N. Dearborn Ave.  
 Sullivan, Francis J., Kankakee State Hospital  
 Uran, Benj. F., 207 N. Dearborn Ave.

Weaver, Isabel M., Kankakee State Hospital  
 White, Minor Elisha, 690 S. Greenwood Ave.; office, 189 S. Schuyler Ave.  
 Wilkinson, John Raymond, 839 S. Wildwood Ave.; office, 181 E. Court St.  
 Wilson, Ernest G., 894 S. Greenwood Ave.; office, 258 E. Court St.

#### KANSAS (EDGAR)

McKnight, Roy H.  
 Roberts, James Bray  
 Weaver, Floyd Bradley

#### KARBERS RIDGE (HARDIN)

Paris, James Lenard, Sr. (See Elizabethtown)

#### KARNAK (PULASKI)

Vinyard, Silas

#### KEENSBURG (WABASH)

Lovelette, Harry R.  
 Parmenter, Ben

#### KEITHSBURG (WABASH)

Allen, John S.  
 Coe, True Deloss  
 Keaveney, Thos. Eugene

#### KELL (MARION)

Simmons, Wm. Franklin

#### KEMPTON (FORD)

Ross, Wm. Grant

#### KENNEY (DE WITT)

Blome, Fredk. Michael

#### KEWANEE (HENRY)

Alexander, Julius S., 611 S. Tremont St.  
 Boswell, John Thos.

Carney, Thos. Bernard, 112 E. Central Blvd.; office, 102 W. 3d St.

Coffin, Chas. Albert, 419 E. Prospect St.; office, 104 W. 2d St.

Duncan, Ella M., 407 S. Tremont St.

Fortier, Clarence Albert, 335 E. Division St.; office, 108½ N. Tremont

Heaps, Warren T., 315 S. Tremont St.; office, 202 N. Tremont St.

Heflin, H. Nelson, 137 W. Division St.; office, 115½ W. 3d St.

Hoffman, Gideon H., 525 S. Chestnut St.; office, 106 W. 2d St.

McDermott, Peter John, 621 E. Prospect St.; office, 203 N. Tremont St.

Meier, David Edward, 117 W. Division St.; office, 226 N. Main St.

Melaik, Hattie B., 702 S. Chestnut St.; office, 217 N. Main St.

Noren, Gunner P., 424 S. Main St.; office, 107 W. 2d St.

Oliver, John H., 123 W. Division St.; office, 121 W. 2d St.

O'Malley, Wm. H.

Stewart, Fredk. Jarratt, 411 McKinley Ave.; office, 121 W. 2d St.

Trekell, John E., 112½ W. 2d St.

Veach, Harry Orr, 423 S. Tremont St.; office, 108½ W. 2d St.

Wasburn, Wm. E., 2d and Tremont Sts.

White, Chas. Paul, 700 S. Main St.; office, 123½ N. Tremont St.

#### KEYESPORT (CLINTON)

Copple, Carroll Reid

**KINCAID (CHRISTIAN)**

Miller, Richard Jasper  
Port, Fredk. James

**KINDERHOOK (PIKE)**

Dechow, Philip Herman

**KINMUNDY (MARION)**

Miller, Hugo  
Stephens, C. Perry

**KIRKLAND (DE KALB)**

Ickstadt, Albert, Sr.  
Leppert, Chas. Lynville

**KIRKWOOD (WARREN)**

Hall, Jos. Franklin  
McClanahan, James M.

**KNOXVILLE (KNOX)**

Beecher, Chas. Edwin  
Harms, Arthur H.  
Moffett, Reuben Alvord

**LACON (MARSHALL)**

Bradford, Albert Wm.  
Eddington, Murtell Mead  
Eddington, Royal Lacey  
Potts, Frank T.

**LADD (BUREAU)**

Dunn, Horace Bonsey  
Green, Chas. Jos.

**LA FAYETTE (STARK)**

Church, Elmer E.

**LA HARPE (HANCOCK)**

Ash, John C.  
Beacom, Danl. Fisher

**LAKE BLUFF (LAKE)**

Dewey, Elbert Eells (See Chicago)  
Hislop, Margaret  
Keyes, Thos. Bassett (See Chicago)  
McKee, Clarence Stiles (See Chicago)  
Patterson, Franklin (See Chicago)  
Rissinger, Arthur Joe (See Lake Forest)  
Sweeting, Getta Cater

**LAKE FOREST (LAKE)**

Andrews, Henry Claire, 611 Rosemary Rd.  
Hagan, James Harry  
King, Paz Garcia (See Chicago)  
McCullough, Clifford Porter  
McGrew, Donald John  
Parmenter, Bert Newton  
Proxmire, Theo. S.  
Rissinger, Arthur Joe

**LAKE FORK (LOGAN)**

Denison, Lee L.

**LAKEWOOD (SHELBY)**

Eddy, James H.

**LAMOILLE (BUREAU)**

Wiman, Louis H.

**LANARK (CARROLL)**

Packard, Thos. I.  
Scholes, Wm. John  
Seyfarth, Mac Harper

**LANSING (COOK)**

Chapman, John Van Liew  
Stockl, Anton  
Van Wormer, Frank Burton (See Harvey)

**LA SALLE (LA SALLE)**

Ailes, Arlington, 1228 St. Vincent's Ave.; office, Hygienic Institute

Balensiefer, Otto, (Peru); office, 153 Marquette St.

Burke, Edmund Jos., 912 6th St.; office, 153 Marquette St.

Cox, Edward Frank, 635 Tonti St.; office, 149 Marquette St.; also office, (Oglesby)

Elliston, LeRoy Bertram, 715, 7th St.; office, 744 1st St.

Elliston, Robert Leo, 1051 Creve Coeur St.; office, 744 1st St.

Geiger, John Wolfgang (Peru); office, 654 1st St.

Greaves, Walter Wood, 1505 Bucklin St.; office, 654 1st St.

Haskins, Wm. Vincent, 660 8th St.; office, 654 1st St.

Hirsch, Saml., 521 1st St.

Kinder, Anna M. Hennessy, 637 1st St.

Lewis, John Francis, 341 Gooding St.; office, 605½ 1st St.

Maciejewski, Felix Joseph, 654 1st St.

McDonald, Justin Jos., 436 9th Pl.; office, 153 Marquette St.

Orr, Hugh Montgomery, 540 S. 5th St.; office, 111½ Marquette St.

Phillips, Herbert Lester (Peru); office, 654 1st St.

Ramenofsky, Abraham Isadore, 403 Wright St.; office, 654 1st St.

Scanlon, Wm., 645 Gooding St.; office, 654 1st St.

Schoch, Andrew Clarence, 457 9th St.; office, 9th and Sterling Sts.

Sellett, M. M., 425 Wright St.; office, 125 Marquette St.

Terrando, Jos. Stephen, 517½ 1st St.

Urhanowsky, Leon Vincent, 641 11th St.; office, 111½ Marquette St.

Woods, Ralph Hueston, 537 5th St.; office, 153 Marquette St.

**LATHAM (LOGAN)**

Pope, Harry Overton

**LAWRENCEVILLE (LAWRENCE)**

Armitage, Ralph Boyce  
Bryant, James B.  
Cooley, Everett Monroe  
Gordon, Ralph L.  
Green, Wendell Irving  
Kensler, Percy  
Kimery, Carl W.  
Kirkwood, Thos.  
Lewis, Harlie V.  
Petty, Frank F.  
Trueblood, Ralph Randolph

**LEAF RIVER (OGLE)**

Bowerman, Hugh E.

**LEBANON (ST. CLAIR)**

Bittner, Jessie Josephine Hummel  
Grieshaum, Philip  
Renner, Fredk. Alex

**LEE (LEE)**

Shank, Wm. Lorenzo

**LELAND (LA SALLE)**

Chapman, Wm. E.

**LENA (STEPHENSON)**

Thompson, Leonard Martin  
Vickery, Lee Otis

**LEONORE (LA SALLE)**

Sickley, Fred L.

**LE ROY (McLEAN)**

Jones, John Franklin  
McConnell, Alpha Bernice Curry  
Sargent, Edw. E.  
Schulhof, Maurice Geo.  
Thompson, Orris Martin  
Tuthill, John A.

**LEWISTOWN (FULTON)**

Davis, Eli G.  
Ewan, Roht. Thornton  
Komasinski, Van Walter  
Moorhouse, Chas. Vincent  
Oren, Saml. Allen  
Quinones, Marcos Aurelio  
Reinertsen, Paul Danl.

**LEXINGTON (McLEAN)**

Bull, E. Martha  
Langsdale, Guy H.  
Scott, Thos. Craig  
Scott, Walter P.

**LIBERTY (ADAMS)**

Davidson, Walter E., R. D. 2.  
Snider, W. Frank

**LIBERTYVILLE (LAKE)**

Edwards, Clarence Owen  
Galloway, Chas. R.  
Martin, Fredk. Henry  
Penney, Maurice Day  
Stephens, Chas. N.  
Taylor, John Lincoln

**LINCOLN (LOGAN)**

Balding, Ned Alvin, 703 N. Union St.; office, 602½ Broadway  
Becker, Carl Fred., 221 N. Logan St.; office, 402 Broadway  
Bradburn, Hubert Benj., 445 N. Union St.; office, 514 Pekin St.  
Branom, Le Roy, 627 N. Union St.; office, 108 Kickapoo St.  
Bushy, Eugene Spence, Lincoln State School and Colony  
Butler, James Homer, 204 N. McLean St.; office, 123 N. Kickapoo St.  
Coleman, Wm. Walter, 229 N. Kickapoo St.; office, 123 N. Kickapoo St.  
Comstock, Frank Henry, 861 S. State St.  
Davis, Chester B., 626 College Ave.; office, 10 N. Logan St.  
Drummy, Anthony Mathias, 110 Peoria St.; office, 610½ Broadway  
Fearrington, James Cornelius Pass, 861 S. State St.  
Fox, Wm. Warren, 861 S. State St.  
Gaffney, Emory Clizhe, 518 College Ave.; office, 501 Pulaski St.  
Hagans, Frank Marion, 205 Lincoln Ave.; office, 400 Broadway  
Hart, Jennie Winship Parks, 506½ Broadway  
Holben, Raymond, Lincoln State School and Colony  
Houser, Frank C., 221 N. Logan St.; office, 108 N. Kickapoo St.  
Knochel, Jos. Martin, 108 Hudson St.; office, 514½ Broadway  
Lurie, Leah, 861 S. State St.  
Mize, Edward Lindsay, Lincoln State School and Colony  
Montgomery, Calvin Carlin, 222 College Ave.; office, 514½ Broadway  
Orr, Francis Nicholas, 861 S. State St.  
Perry, Wallace Brown, 226 Park Pl.; office, 315 Broadway

Rembe, Chas., 115 Pulaski St.  
Rhoads, Lewis Thos., 319 Peoria St.;  
office, 501 Pulaski St.  
Rooney, Geo. Eugene, Lincoln State  
School and Colony  
Valenta, Ella Helen, 861 S. State St.  
Waters, Phillip Sheridan, Lincoln State  
School and Colony

#### LITCHFIELD (MONTGOMERY)

Allen, Lee Gilbert  
Bennett, Harry F.  
Blackwelder, Fred C.  
Griswold, Ross Wm.  
Sihler, Chas. Harold  
Sihler, Geo. Albert, Sr.  
Sihler, Geo. Albert, Jr.  
Zoller, Christian H.

#### LITTLETON (SCHUYLER)

Lottridge, W. M.

#### LITTLE YORK (WARREN)

Jewell, Merit S.

#### LIVINGSTON (MADISON)

Berry, Roy Clifford

#### LOCKPORT (WILL)

Gunderson, Anna Hussey  
Kingston, Elwood A.  
North, Will Carleton  
Paddock, Walter R.  
Roberts, Jack  
Roblee, Leonard Field

#### LOMBARD (DU PAGE)

Boffenmeyer, Geo. E. (See Chicago)  
Frank, Walter Wm.  
Glasener, Chas. F.  
Lackner, Frank  
Oleson, Richard Bartlett  
Reis, Jos. Hyacinth, Jr.  
Woodworth, Philip Rollin

#### LONDON MILLS (FULTON)

Stoebr, Gustave Llewellyn

#### LONG POINT (LIVINGSTON)

Turner, Guy Franklin

#### LORAIN (ADAMS)

Black, Edwin T.

#### LOSTANT (LA SALLE)

Sandberg, Ivan Magnus

#### LOUISVILLE (CLAY)

Dillman, Howard Brown  
Dillman, John Vardeman  
Gibson, Elijah P.  
Steely, Benj. Franklin

#### LOVEJOY (ST. CLAIR)

Williams, Earle (col.)

#### LOVINGTON (MOULTRIE)

Hoover, Walter Karl  
Scaggs, Alex.

#### LOWPOINT (WOODFORD)

Burdon, Stephen Malcolm

#### LUDLOW (CHAMPAIGN)

Briggs, Francis Earle

#### LYNDON (WHITESIDE)

Harriman, Saml. S.

#### MACEDONIA (HAMILTON)

Sims, John Milton

#### MACKINAW (TAZEWELL)

Allen, Geo. Stewart

Fast, Harry DeWitte

Kilby, Edgar E.

#### MACOMB (McDONOUGH)

Adams, Arthur R.  
Allen, Saml. Shelhorn  
Bacon, Jos. Barnes  
Carnahan, William Ernest  
Davis, Jos. Henry  
Duntley, Geo. Silas  
Hartman, Wm. Michael  
Hermetet, James Henry  
Hermetet, John W.  
Holmes, Jos. Bryce  
Houston, Wm. Wilsoh  
Jenkins, Benj. D.  
Knappenberger, Geo. Emmett  
Marrs, Richard F.  
Miner, Elizabeth R.  
Russell, Saml.  
Russell, S. Frank  
Schrader, Edwin Fredk.  
Standard, Alphonso Perry

#### MACON (MACON)

Miller, Chas. Arthur  
Plummer, Oscar F.

#### MADISON (MADISON)

Harlan, Lee Collins  
Kiser, Chas. R.  
Scopelite, Jos. Aloysius  
Smith, Decatur Alvin

#### MAEYSTOWN (MONROE)

Maey, Alvin Henry

#### MAHOMET (CHAMPAIGN)

Pearman, James Ora  
Smith, Robt. Harlie

#### MANHATTAN (WILL)

Brannon, Geo. H.  
Brannon, Londus Baker  
Pederson, Lars Sedvard

#### MANITO (MASON)

Wright, Nelson A.

#### MANLIUS (BUREAU)

Mullin, Elmer L.  
Williams, Saml. E.

#### MANSFIELD (PIATT)

Hulick, Lester Paul

#### MANTENO (KANKAKEE)

Burstein, Harry  
Gollmar, Arthur Howard  
Hinton, Ralph Thompson  
Pekin, Thos. Jos.  
Phipps, Orvan Abijah  
Thomas, Russell Vernon

#### MAPLE PARK (KANE)

Trainor, Thos. H.

#### MAPLETON (PEORIA)

Egan, Thos. Sylvester

#### MAQUON (KNOX)

Knowles, Gilbert L.  
Long, James U.

#### MARENGO (McHENRY)

Casely, Wm. J. C.  
Eshbaugh, Walter S.  
Fowler, Geo. Watson  
Gooder, Wm. Verner  
Sukumlyn, Stephen Wm.

#### MARINE (MADISON)

Holcombe, Robt. Lyndon  
Ulrich, Everett R.

#### MARION (WILLIAMSON)

Baker, Alonzo Newton  
Baker, Clark Everett  
Felts, Harvey Austin  
Fowler, Lorin Lycurgus  
Gillespie, John Morgan, R. D.  
Hall, Karl Herbert, R. D. 5  
Harris, David H.  
Hartwell, Dausa Dow  
Hudson, Zach  
Parmley, Jos. G.  
Reid, Wm. Edward  
Summers, Harmon Louis  
Walker, Isaac Cecil  
Woodside, Edward E.

#### MARISSA (ST. CLAIR)

Campbell, Jos. A.  
Campbell, Jos. M.  
Hays, Geo. Richard  
Tweed, James R.

#### MAROA (MACON)

McLean, Wm. Thos.  
Wood, Chas. M.

#### MARSEILLES (LA SALLE)

Clark, Paul R.  
DeVries, Jerry  
Stricker, Clifford John

#### MARSHALL (CLARK)

Mitchell, Earl Hick  
Mitchell, Roscoe Addison  
Pearce, Edw.  
Rose, James John  
Weir, John  
Weir, Levi J.

#### MARTINSVILLE (CLARK)

Doak, Wm. H.  
Rogers, William Morton  
Wilhoit, Dellie L.

#### MASCOUHA (ST. CLAIR)

Behrens, Wm. Herbert  
Lischer, Robt. Franklin  
Reinhardt, Oscar Frank  
Scheve, Elmer Frederick

#### MASON CITY (MASON)

Cargill, Chauncey W.  
Caton, Walter Marion  
Rogier, Henry Oliver  
Schuette, Wm. Henry

#### MATHERVILLE (MERCER)

Stephens, Wm. H.

#### MATTOON (COLES)

Baker, James Garfield, 1404 Wabash  
Ave.; office, 121 S. 17th St.  
Bryan, Thomas Albert, 1317 Wabash  
Ave.; office, 213 S. 17th St.  
Carter, Wm. Jos., 3021 Western Ave.;  
office, 1501 Charleston Ave.  
Cole, Bert Raymond, 200 Wabash Ave.;  
office, 213 S. 17th St.  
Coultas, Rufus James, 1516 Wabash  
Ave.; office, 1706a Broadway  
Ferguson, Oscar Wallace, 1401 Wabash  
Ave.; office, 1622½ Broadway  
Hardinger, Burt Horace, 3413 Western  
Ave.; office, 1601 Broadway  
Hardinger, Paul Milton, 3304 Western  
Ave.; office, 1601 Broadway  
Link, Jos. John, 1613½ Broadway  
Morgan, Chas. Edwin, 3401 Western  
Ave.; office, 213 S. 17th St.  
Neal, Lovell Arthur, 106 S. 16th St.  
Nolan, James Frank, 67 Wabash Ave.;  
office, 1606½ Broadway



- Nuzie, Saml. Bernard, 1621½ Charles-ton Ave.  
 Parrish, Bruce Downing, 1500 Wabash Ave.; office, 1704 Broadway  
 Richardson, Edmon E., 1313 Broadway; office, Demaree Bldg.  
 Summers, Alhert Tower, 1618½ Broad-way  
 Summers, Edmund, 1408 Wabash Ave.; office, 1618½ Broadway  
 Talhot, Melville Clone, 212 S. 15th St.; office, 1703 Broadway  
 Voight, Chas. Bernard, 1613 Lafayette Ave.; office, 1702 Broadway  
 Wallace, Wm. Glenn, 112 S. 17th St.
- MAUNIE (WHITE)**  
 Giltner, Philip C.
- MAZON (GRUNDY)**  
 Breisch, Warren Franklin  
 Worley, Luther F.
- McCLURE (ALEXANDER)**  
 Heilig, Geo. N.
- McHENRY (McHENRY)**  
 Klontz, Clayton Wilson  
 Nye, Nicholas J.  
 Nye, Wm. A.  
 Wells, David Gillison
- McLEAN (McLEAN)**  
 Ritter, Chas. W.
- McLEANSBORO (HAMILTON)**  
 Clement, John Marion  
 Hall, Emory Sylvester  
 Hall, Wm. Wesley  
 Hyatt, Gilbert Thos.  
 Johnson, Chas. Wilson  
 Nation, Paris Milton
- McNABB (PUTNAM)**  
 McGee, Alhert Corryden
- MECHANICSBURG (SANGAMON)**  
 Hill, John H.
- MEDORAH (MACOUPIN)**  
 Erwin, Oliver Perry  
 McGuire, Roy Herman  
 Wood, Claude Crossland
- MENARD (RANDOLPH)**  
 Barnett, Andrew Felix  
 May, Edwin Ralph  
 Stubblefield, Frank A.
- MENDON (ADAMS)**  
 Austin, Adelbert Morton (See Quincy)  
 Knapp, David Murton
- MENDOTA (LA SALLE)**  
 Avery, Wilbur Minor  
 Cook, Edgar Charles  
 Gleason, Michael  
 Harris, Chas. Oscar  
 Harris, Oscar P.  
 McDonald, Wm. Brown
- MEREDOSIA (MORGAN)**  
 Demke, Lucien Emil  
 Neville, Lois
- METAMORA (WOODFORD)**  
 Knoblauch, Jos. I.
- METCALF (EDGAR)**  
 Morton, Harry Thos.
- METROPOLIS (MESSAC)**  
 Cummins, Geo. Fowler  
 Decker, Virgil Owen
- Dixon, Winfield Scott  
 Fisher, Jos. Allen  
 Garrett, Teresa Olive  
 Roberts, Thos. Willett  
 Trovillion, Milo H.  
 Hucker, Chas. Edw.  
 Willis, Omer M.
- MIDLEGROVE (FULTON)**  
 Dehm, Chas. Henry
- MIDDLETOWN (LOGAN)**  
 Guttery, Wm. Vincent
- MILAN (ROCK ISLAND)**  
 Eddy, Warner L.  
 Wadsworth, Paul W.  
 Wiggins, Geo. A.
- MILFORD (IROQUOIS)**  
 Coen, Chas. Morgan  
 Green, Austin L.  
 Schlegel, Karl Wm.  
 Thayer, Wilbur F., Jr.
- MILLBURN (R. D. WADSWORTH) (LAKE)**  
 Jamison, Homer E.
- MILLCREEK (UNION)**  
 Heilig, Oliver M.
- MILLEDGEVILLE (CARROLL)**  
 Sword, Howard Russell
- MILLERSBURG (MERCER)**  
 Ohaver, Matthew
- MILLSTADT (ST. CLAIR)**  
 Rose, Fred  
 Tegtmeyer, Loraine Edward
- MILTON (PIKE)**  
 Doss, Judson Irwin  
 Johnston, Frank
- MINERAL (BUREAU)**  
 Martin, Bertram A.
- MINIER (TAZEWELL)**  
 Holmes, Edgar Rea  
 Rost, John Fredk. W.
- MINONK (WOODFORD)**  
 Gordon, Noel Eugene  
 Millard, Homer Alanson  
 Morrison, Winfield Scott
- MINOOKA (GRUNDY)**  
 Coady, John Jay
- MOKENA (WILL)**  
 McMahan, Ernest Graham
- MOLINE (ROCK ISLAND)**  
 Anderson, Cyrus H.  
 Arp, August Henry, 1326, 16th St.; office, 508½ 15th St.  
 Arp, Louis Croft, 1525 29th St.; of-  
 fice, 508½ 15th St.  
 Barding, Lewis Danl. (See East Mo-  
 line)  
 Beal, Albert Milton, 2601 6th Ave.;  
 office, 514½ 15th St.  
 Beam, Hugh Atlee, 1430 25th Ave.;  
 office, 1630 5th Ave.  
 Bennett, Henry Sumner, 2515 7th Ave.;  
 office, 1514 5th Ave.  
 Carlson, Hada M. Burkhart (See Rock  
 Island)  
 Carlton, Clarence Light, 1611 7th St.;  
 office, 1630 5th Ave.  
 Davenport, Frank Noble, (4209 6th  
 Ave., Rock Island); office 524½ 15th  
 St.  
 Dondanville, Laurence Aloysius, 1721  
 11th Ave.; office 501 15th St.  
 Dondanville, Martin S., 925 17th St.;  
 office, 501 15th St.  
 Edlen, Emil Alexius, 1428 12th St.;  
 office, 425 15th St.  
 Ellis, Clifford Cowdell, 2718 15th Ave.;  
 office 1630 5th Ave.  
 Flatley, Thos. Jos., 1801 14th St.; of-  
 fice 1514 5th Ave.  
 Freeman, David Barnard, 1100 23d  
 Ave.; office, 1630 5th Ave.  
 Gardner, Frank H., 2517 12th St.;  
 office, 507 15th St.  
 Gibson, Harrison Milton, 2201 Bar-  
 nard Ct.; office, 501 15th St.  
 Hagler, Nathaniel G. (col.), 413½ 15th  
 St.  
 Hanson, Jos. Kanute, 1702 11th St.;  
 office 501 15th St.  
 Hauberg, Geo. David, 2002 15th St.;  
 office, 1630 5th Ave.  
 Jones, Chas. D., 1941 12th Ave.  
 Koff, Salmon Arthur, 1215 15th St.;  
 office, 501 15th St.  
 Kohler, Arvid Ernest, 1104 25th Ave.;  
 office, 524 15th St.  
 Koivun, Geo. Wm., 1844 14th St.; of-  
 fice, 1514 5th Ave.  
 Leipold, Arthur Thos., 2515 27th St.;  
 office, 1630 5th Ave.  
 McKelvey, Jos. D., 2106 15th St.; of-  
 fice, 506 15th St.  
 Meyer, Robt. C. J., 1815 3d Ave.  
 Neff, Emery Bowers, 1214 11th St.;  
 office, 1529 3d Ave.  
 Nelson, David Roy, 2337 23rd Ave.;  
 office, 521½ 15th St.  
 Oakley, Robt. Wm., 2121 15th St.;  
 office, 501 15th St.  
 Otis, Eleanore Mabel Howe, 1894 14th  
 Ave.; office, 1630 5th Ave.  
 Otis, Frank Jesse, 1894 14th Ave.; of-  
 fice, 1630 5th Ave.  
 Parsons, Harold Hunt, 2385 29th St.;  
 office, 1630 5th Ave.  
 Pearsall-Block, Phebe Lorena, 917 26th  
 St.; office, 1630 5th Ave.  
 Peterson, Carl Arnold, 421 19th St.;  
 office, 518½ 15th St.  
 Rogers, Jennie Maud Thomas, R. D. 1;  
 office, 1525 5th Ave.  
 Sargent, Evlan, 714 17th St.; office,  
 423½ 15th St.  
 Seids, John W., 1525 12th Ave.; of-  
 fice, 1514 5th Ave.  
 Sloan, Chester C., 902 26th St.; office,  
 1605 5th Ave.  
 Smith, Edward Vincent, 1630 5th Ave.  
 Taylor, Warren E., 1529 12th Ave.  
 Thomson, Thomas Lewis, 1635 24th  
 St.; office, 1514 5th Ave.  
 Tremblay, Alfred, 702½ 18th Ave.  
 Vollmer, Maud Julia Otis, 1894 14th  
 Ave.; office, 1630 5th Ave.  
 Wahlberg, Karl Wm., 2335 19th Ave.;  
 office, 1514 5th Ave.  
 Vessel, Perry H., 3300 16th St.; of-  
 fice, 519½ 15th St.  
 West, Arthur Dudley, 2216 6th Ave.;  
 office, 415½ 15th St.  
 Youngberg, Paul Philip, (3904, 7th  
 Ave., Rock Island); office 1630, 5th  
 Ave.

**MOMENCE (KANKAKEE)**

Gamet, Jos. Hirman  
Lewis, John V.  
Van Zant, Noble

**MONEE (WILL)**

Sullivan, Clement O.

**MONMOUTH (WARREN)**

Blair, Chas. Patton  
Buchanan, Howard Jos. S.  
Burgess, Chas. O.  
Camp, Harold Manlove, 322 South B  
St.; office, 222 S. Main St.  
Ebersole, Harry Glenn  
Ebersole, Jos. R.  
Fetherston, Ernest A.  
Firth, John Oscar  
Frymire, Wm. Arthur  
Graham, Ralph  
Hiett, Alva  
Kampen, Harry Lewis  
McMillan, Robt. C.  
Sherrick, Joseph Leslie  
Winters, Frank Chas.  
Worrell, Joel Darrah

**MONROE CENTER (OGLE)**

Rice, Carroll Wendell

**MONTICELLO (PIATT)**

Blan, James Weaver  
Bumstead, Chas. M.  
Furry, Abe D.  
Gilchrist-Wheeler, Virgil Martha (See  
Urbana)  
Hawthorne, Roy Otway  
Holmes, John Musser  
Senseman, Mary Izetta

**MONTROSE (EFFINGHAM)**

Goebel, Albert Edmund  
Gunn, Robt. Mailey, R. D.

**MOOSEHEART (KANE)**

Nichols, John Delbert

**MORRIS (GRUNDY)**

Bowker, Frank C.  
Graham, Fred Wilson  
Kales, John Wm.  
Larsen, John Bertram  
Leach, Geo. A.  
Perisho, Gordon Maxwell  
Sachse, Wm. Gustavus  
Whitman, Roscoe

**MORRISON (WHITESIDE)**

Fitzgerald, Frank  
Lester, Rollin Harold  
Maurits, Wm. J.  
Pettitt, Herbert Leroy  
Wright, James A.

**MORRISONVILLE  
(CHRISTIAN)**

Gibson, Archie Tilden  
Seaton, Chas. M.  
Thompson, Jerome

**MORTON (TAZEWELL)**

Brines, Orman Nelson  
Endres, Fred Carl  
Yoder, Henry Lee

**MOUND CITY (PULASKI)**

Hargan, John F.  
Wesenberg, Wm. Robt.

**MOUNDS (PULASKI)**

Elkins, Homer Joshua  
Hudson, Otis Talmage  
Rife, Berry Volney

Sealy, Saml. T. (col.)

**MOUNT AUBURN  
(CHRISTIAN)**

Franklin, Wellington August

**MOUNT CARMEL (WABASH)**

Baird, Waldo Brown  
Buchholz, Emil Albert  
Couch, Gilbert S.  
Craig, Cale Curtis  
Elkins, Harold Albert  
Keneipp, Edgar P.  
McIntosh, John Jerome  
Schneck, Sereno Watson  
Utter, John Chas.

**MOUNT CARROLL (CARROLL)**

Colehour, Saml. Phillip  
Mershon, Glenn Earl  
Petty, Ray Humbert  
Rice, Rollin B.

**MOUNT ERIE (WAYNE)**

Dixon, James Franklin  
Roberts, Edwin Elmo

**MOUNT MORRIS (OGLE)**

Brown, Royal Oscar  
Price, Chas. Jacob  
Stengel, Henry Jesse  
Warmolts, Lambertus (See Oregon)

**MOUNT OLIVE (MACOUPIN)**

Floreth, Gustav Adolphus  
Hauser, Otto  
O'Farrell, Patrick Francis

**MOUNT PULASKI (LOGAN)**

Connelly, Geo. Sullivan  
Hildreth, Chas. Edward  
Rankin, Horace R.  
Van Hook, Forest Clyde

**MOUNT STERLING (BROWN)**

Ash, John G.  
Dearborn, Chas. Bartlett  
McGann, Raymond Chas.  
Stokes, Chauncey M.  
Wester, Edward Arthur

**MOUNT VERNON  
(JEFFERSON)**

Arendale, Alma Lillian, Centralia Rd.;  
office, 511 S. 10th St.  
Black, John Curtis  
Clark, Thomas Allen, 2001 W. Broad-  
way; office, 1002 W. Main St.  
Dixon, Claire Maurice, Salem Rd.;  
office, 1002 Main St.  
Dixon, James Edmond  
Folsom, Ephraim Melvin, 900 North St.  
Frost, Arthur McKendree  
Hall, Andy, 1002 Main St.  
Hall, Chas. Wesley  
Hall, Marshall Wesley  
Hamilton, Clarence Orval, 1910 Broad-  
way; office, 113½ S. 10th St.  
Hamilton, James W.  
Maxey, Moss, 202½ N. 10th St.; office,  
113½ S. 10th St.  
Parker, Wm. Garfield, Richview Rd.;  
office, 1002 Main St.  
Peavler, Hugh  
Poole, Chas. Judson  
Ross, Wm. R., 600 Harrison St.; office,  
906½ Main St.  
Simons, Wm. Arthur  
Smith, Elmer Maurice, 1800 Oakland  
Ave.; office, 1001½ Broadway.

Smith, Robert Russell, 1119 Maple St.;  
office, 1002 Main St.

Suttle, Orvel Addison, 405 Main St.;  
office, 1005 Main St.

Swift, H. Maxey, 1920 College St.;  
office, 814 E. Main St.

Taylor, Grant L.

Thompson, Sam. A.

Ward, Tood Pope, 820 North St.; office,  
727 Broadway

Williamson, Thos. B.

**MOUNT ZION (MACON)**

May, Sheffie R.

**MOWEAQUA (SHELBY)**

Sparling, James Lyons

**MULBERRY GROVE (BOND)**

Brown, Dewitt Talmage

**MUNCIE (VERMILION)**

Michael, Oscar Willard

**MURPHYSBORO (JACKSON)**

Daniel, Harriett M., Atlasta Farm; of-  
fice, 1328 Walnut St.  
Ellis, Edward Kent  
Ellis, Ira W.  
Essick, Raymond Brooke  
Horstman, Henry G., 2112 Division St.;  
office, 1328½ Walnut St.  
Hrabik, John H., 1101 Mulberry St.;  
office, 1116½ Walnut St.  
Keiser, Frank Martin  
Minner, Louis A., (Carbondale); office,  
1105 Chestnut St.  
Ormsby, Oscar Burton, 1328 Manning  
St.; office, 113 S. 11th St.  
Ransmeier, Robt. E.  
Riseling, Chas. Everett, 230 N. 15th  
St.; office, 1337½ Walnut St.  
Roth, Henry Herman, 2028 Division  
St.; office, 1400½ Walnut St.  
Sabine, Ralph Stoddard, 1843 Spruce  
St.; office, 1318 Walnut St.  
Wayman, Louis Roy, 2015 Walnut St.;  
office, 1400½ Walnut St.

**MURRAYVILLE (MORGAN)**

Waters, Chas. Edwin  
Webster, Geo. Omar

**NAPERVILLE (DU PAGE)**

Bazell, Sidney Ross  
Clancey, John H.  
de Guevara, Alberto Ladron (See  
Chicago)  
Law, Stanley Guy  
Martin, Winfred Byrum  
Migely, Walter Louis  
Moser, Edward Stephan  
Richter, Richard Biddle (See Chicago)  
Rikli, Arthur Richard  
Simpson, Eugene Grant  
Truitt, Ruliff Lawrence  
Whitehead, Clayton S.

**NASHVILLE (WASHINGTON)**

Eirich, Karl Walter  
Green, Geo. A.  
Rabenneck, Paul Benj.  
Schroeder, Simon Peter  
Vernor, Roscoe Conkling

**NAUVOO (HANCOCK)**

Kingsbury, Earl LaVerne  
Shaw, Albert Morton

**NEBO (PIKE)**

Rutledge, James Hirst

**NEOGA (CUMBERLAND)**

Bigler, Sherman Edwin  
Dougherty, Geo. Pitzer  
Dougherty, Xenophon Best  
Young, John Roscoe

**NEPONSET (BUREAU)**

Chiasson, Timothy L.

**NEWARK (KENDALL)**

Freeman, Harry E.

**NEW ATHENS (ST. CLAIR)**

Power, Julia  
Schneidewind, Oswald Geo.  
Trappe, Theodore Henry

**NEW BADEN (CLINTON)**

Asbury, Ernst Charles

**NEW BERLIN (SANGAMON)**

Maxwell, Thos. Rhea  
McMillan, John Chas.  
Taylor, Harriet S.

**NEW BOSTON (MERCER)**

Giles, Henry Wyley  
McIntyre, Louis LeRoy

**NEW CANTON (PIKE)**

Gilbert, Geo. A.

**NEW DENNISON**

(MARION P. O.)

(WILLIAMSON)

Burns, John Erskine

**NEW HOLLAND (LOGAN)**

Carroll, William Franklin

**NEW LENOX (WILL)**

Holt, Janette Louise

**NEWMAN (DOUGLAS)**

Conn, Hugh Irving  
Gilligly, Raymond C.  
Rutherford, Cyrus

**NEW PHILADELPHIA**

(McDONOUGH)

Havens, Albert

**NEW SALEM (PIKE)**

Andrew, Harry B.

**NEWTON (JASPER)**

Bland, Leland James  
Fithian, Geo. Rolland  
Franke, Wm. E.  
Hutton, John Wm.  
Jack, Winifred A. Yelton Robb  
Kittle, Albert P.  
Wattleworth, James R.

**NEW WINDSOR (MERCER)**

Rathbun, Fredk. Judd  
Rathbun, Geo. Lawrence

**NIANTIC (MACON)**

Hall, Alonzo H.  
Pope, Roy C.

**NOBLE (RICHLAND)**

Jones, Chas. L.

**NOKOMIS (MONTGOMERY)**

Burwell, Enoch A.  
Hoyt, Jesse Marion  
Irwin, Millard Holloway  
Vaughn, Chas. Waldo

**NORMAL (McLEAN)**

Barber, Harry Clay  
Cooper, Susan Rachel Merrill, 815 S.  
Fell Ave.; office, Illinois State Normal University.

Doud, Ray Wilson

Hartenbower, Geo. Earl (See Bloomington)

Loar, Ralph Rinehart (See Bloomington)

McCormick, Ferdinand C.

McNutt, James Carson (See Bloomington)

Peairs, Ralph P.

Penniman, Wm. Lloyd

Raber, Daniel Deronda (See Bloomington)

**NORRIS CITY (WHITE)**

Harrell, Jerome L.

Harrell, Wm. D.

Wakeford, Chas.

**NORTH CHICAGO (LAKE)**

Biehn, Jos. Favil (See Chicago)

Brace, Clifford C. C. (See Waukegan)

Budde, Alford Edward

Carson, Harry Raymond, Veterans' Administration Hospital

Cullins, John Graydon, U. S. Vet. Hospital

Daubenheyer, Miles Fredk., (518 N. Sheridan Rd., Waukegan); office, U. S. Vet Hospital

Hunsaker, Curtis Arthur, U. S. Vet. Hospital No. 105

Jerrell, Paul Mahlon, U. S. Vet. Hospital No. 105

Lake, Geo. Burt

Lewis, Claud

Losli, Ernest Jacob, U. S. Vet. Hospital

Malone, Leo Vincent

Mieczynski, Jos. Francis

Morgan, Howard Paul, U. S. Vet. Hospital No. 105

Nall, James Otho

Schelm, Geo. Wm., U. S. Vet. Hospital No. 105

Stallings, Russell Duke, U. S. Vet. Hospital No. 105

Stanul, Peter Jos.

**OAKDALE (WASHINGTON)**

McConaghie, Thos. Fulton

Tibby, Thos. Gordon

**OAKFORD (MENARD)**

Russell, James Clinton

**OAK FOREST (COOK)**

Brookhart, Jos. C., (548 E. 61st St., Chicago); office, Cook County Tuberculosis Hospital

Ferrier, Edgar Garland, Cook County Infirmary and Tuberculosis Hospital

Kulchinsky, Alexander

Peterson, Albert, Cook County Infirmary

Schiff, Morris Jos.

Schlack, Otto Chas., (2520 W. Adams St., Chicago); office, Cook County Tuberculosis Hospital

Shapiro, Sophie M., Cook County Infirmary and Tuberculosis Hospital

Worthington, Harry C., Cook County Tuberculosis Hospital

**OAKLAND (COLES)**

Barker, Reuben Allen

**OAKLEY (MACON)**

Clark, Elmer E.

**OAKWOOD (VERMILION)**

Snider, Wm. Thos.

**OBLONG (CRAWFORD)**

Henry, Geo. Herbert

Kirk, John W.

Kisner, Chas. H.

Mitchell, James M.

Sloan, Leslie Pearl

**OCONEE (SHELBY)**

Littlejohn, Lewis C.

Patterson, John Wm.

**ODELL (LIVINGSTON)**

Blough, Geo. F.

Morse, Arthur W.

**ODIN (MARION)**

Hamilton, Wm. N.

**O'FALLON (ST. CLAIR)**

Everett, Ernest Anthony

Shumaker, Chas. Henry

Trippel, Edw.

**OGDEN (CHAMPAIGN)**

Agnew, T. Lee

**OGLESBY (LA SALLE)**

Beadles, Chas. H.

Cox, Edward Frank (See La Salle)

Huggard, Timothy Stephen

Rock, John Lestrangle

**OHIO (BUREAU)**

O'Malley, Jos. Michael

**OKAWVILLE (WASHINGTON)**

McIlwain, James, Jr.

Schmidt, Herman

**OLIVE BRANCH**

(ALEXANDER)

Lottman, Wm. August (See Cairo)

**OLMSTEAD (PULASKI)**

Caraker, Oscar

**OLNEY (RICHLAND)**

Barthelme, Francis Jos. Lorraine

Fildes, Vernon Sylvester

Fritschle, Wm. E.

Hickman, Homer V.

King, Ralph

Telford, Alexis T.

Trotter, Geo. S.

Weber, Bernard Aloysius

Weber, Frank Clifford

Weber, Frank Jos.

Weber, Geo. Theo.

Weber, James August

Weber, J. Cornelius

Weber, Lawrence, Frank, Olney Sanitarium

Weber, Paul Cornelius

**OMAHA (GALLATIN)**

Barger, Ephraim S.

McGuire, Wm. Edward

**ONARGA (IROQUOIS)**

Baker, Nellie M.

Brown, Chas. F.

Johnson, Fred Ambrose

Shawl, John Ambrose

**ONEIDA (KNOX)**

Ash, Mary Ella

Bedford, Richard J.

Johnson, Wm.

Stone, Jacob Clay

**OPDYKE (JEFFERSON)**

Jack, Robert Berry

**OQUAWKA (HENDERSON)**

Eads, Coleman J.



## ORANGEVILLE (STEPHENSON)

Bolin, Robt. Siegfried  
Rockey, Laurence Frank

## OREGON (OGLE)

Beveridge, James M.  
Bowen, Wm. Stansberry  
Cottlow, Benj. Augustus  
Kloster, Grant Melvin  
Schneider, Leo Elmer  
Warmolts, Lambertus, also office  
(Mount Morris)

## ORIENT (FRANKLIN)

Williams, Chester Henry

## ORION (HENRY)

Bigglestone, Harry Clinton  
Gustafson, Jos. Ansley

## OSWEGO (KENDALL)

Churchill, Alfred H.  
Weishew, Lewis Jerome

## OTTAWA (LA SALLE)

Blue, Wm. S., 222 Christie St.; office,  
628 Columbus St.  
Clune, Philip J., 603 Main St.  
Dunham, Royal Wade, 106 St. James  
St.; office, Ottawa Tuberculosis Sana-  
torium.  
Dwyer, Danl. Raymond, 723 Clinton  
St.; office, 112 W. Madison St.  
Edgcomb, John Harold, 714 Chapel St.;  
office, 630 Columbus St.  
Fischer, Haydn Lyle, 431 Congress  
St.; office, 700 La Salle St.  
Fitch, Ella, 716 Columbus St.  
Fread, Wm. Phineas, 215 Prospect  
Ave.; office, 700 La Salle St.  
Hatheway, Elnathan P., 639 Webster  
St.; office, 628 Columbus St.  
Herrick, Minerva, 1434 Ottawa Ave.  
Jacobs, Chas. Wm., 635 Columbus St.  
Jamieson, Wm. Henry, 1448 Ottawa  
Ave.; office, 700 La Salle St.  
Klumpner, Geo., 515 Congress St.; of-  
fice, 628 Columbus St.  
Kneussl, Maximilian Bernard, 112  
Madison St.  
May, Austin E.  
O'Neill, Jos. Thos., Birch Lawn Pl.;  
office, 112 Madison St.  
Parr, Saml. E., 507 E. Main St.; office,  
628 Columbus St.  
Pettit, Roswell Talmadge, 323 Pearl  
St.; office, Illinois Valley Hospital.  
Pike, Wm. Arthur, 728 Columbus St.  
Pomeroy, Paul Griffith, 919 W. Madi-  
son St.; office, 630 Columbus St.  
Roberts, Albert Jay, 414 Christie St.;  
office, 628 Columbus St.  
Sawyer, Matthias H., 528 2d Ave.;  
office, 636 Columbus St.  
Smith, Durand, Ottawa Tuberculosis  
Sanatorium.  
Telford, Henry Clyde, 723 W. Madison  
St.; office, 628 Columbus St.  
Vanatta, Clarence Fisher, 539 2d Ave.;  
office, 628 Columbus St.

## OWANECO (CHRISTIAN)

Millhon, Homer Benj.

## PALESTINE (CRAWFORD)

Gettinger, Martin L.  
Ikemire, John Andrew

Ikemire, Marjorie Louise  
Illyes, Levi Roscoe  
Loesch, Geo. Edw.  
Price, Barlow Lloyd  
Taylor, Orlando G.

## PALMER (CHRISTIAN)

Miller, Jos. F.

## PALMYRA (MACOUPIN)

Doan, Thos. D.  
McMahon, Martin  
Powell, Wm. L.

## PANA (CHRISTIAN)

Alderson, Albert Lee  
Alderson, John Hagler  
Bullington, Grover C.  
Burgess, Walter  
Coffey, D. Fletcher  
Danford, Roscoe Conklin  
Eberspacher, Fredk. John  
Hager, Wm. Francis  
Littlejohn, Dana Meade  
Miller, Louis Henry

## PANAMA (MONTGOMERY)

Needles, Arthur Stone

## PARIS (EDGAR)

Apple, Wm. Rufus  
Bittner, Wm. Ameal  
Clinton, Bertha Lawton  
Conklin, Winfred E.  
Davis, Floyd M.  
Dorris, Nettie Austin Murphy  
Dugan, Wm. Jay  
Fleener, Paul Elvin  
Gumm, Albert Gottlieb  
Hoff, Weller H.  
Hunt, Geo. H.  
James, Frederic J.  
Junkin, Homer David  
Laughlin, Elmer O.  
Link, Francis M.  
Martin, John Wesley  
McCord, Thos. Chester  
Musselman, James T.  
Shipley, Clark Lee  
Tygett, Glenn Jos.  
Williams, Byron G. R.

## PATOKA (MARION)

Ducomb, Mirza Phillip  
Hudspeth, Jos. C.  
Murfyn, Warren W.

## PAWNEE (SANGAMON)

Babb, Addie Helen  
Bain, Paul Eve  
McTaggart, Thos. A.  
Yeck, Chas. Wm.

## PAWPAW (LEE)

Clark, Edwin L.  
Fleming, Saml. Clifton  
Peters, Arthur James

## PAXTON (FORD)

Brown, John Bernard  
Kelsheimer, Ira D.  
Lund, John Arthur  
McKinney, Clarence David  
Park, Edmund Calvin  
Peterson, Martin David E.

## PAYSON (ADAMS)

Fortune, Hannibal Claude

## PEARL (PIKE)

Thurmon, Francis Marion

## PEARL CITY (STEPHENSON)

Ascher, John Peter  
Woker, John G.

## PECATONICA (WINNEBAGO)

McCulley, Robt. Arends  
Schnell, Benj. Casper Clifford

## PEKIN (TAZEWELL)

Allen, Arthur E.  
Balcke, Louis Andrew, 630 Washing-  
ton St.; office, 28 S. 4th St.  
Balcke, Wm. Andrew, 410 Washing-  
ton St.; office, 28 S. 4th St.  
Crawford, Neal Dow, 114 S. Capitol St.  
Emmerling, Carl James, 521 Ann Eliza  
St.; office 12½ S. 4th St.  
Gale, Fernando C., 339 S. 4th St.  
Glasford, Saml. Theo., 306 S. 4th St.;  
office, 333 Court St.  
Holmes, Lydia Heckman, 519 Elizabeth  
St.  
Manchester, Howard D.  
Muehlmann, Carl G., 701 Washington  
St.; office, 337 Court St.  
Needham, Wm. Spencer, Buena Vista  
Apts.; office, 410 Elizabeth St.  
Teter, Lloyd Finley, 34 S. 4th St.  
Walker, Hartley W., 341 S. 8th St.;  
office, 333 Court St.  
Walker, Wayne Rose, 714 S. 8th St.;  
office, 341 Court St.  
Wright, Nelson Amos, Jr., 300 Buena  
Vista Ave.; office, 12 N. 5th St.

## PEORIA (PEORIA)

Adelsberger, Bransford Louis, 107  
Farmington Rd.; office, 410 Main St.  
Allen, Albert Frank, 614 Wayne St.  
Askew, Sherman A. (col.), 110 Lin-  
coln Ave.; office, 209 Smith St.  
Auer, Ulysses Grant, Peoria State Hos-  
pital.  
Bacon, Jay Harvey, 202 Columbia  
Terr.; office, 410 Main St.  
Baker, Arthur Earl, 218 Missouri St.;  
office, 333 Fulton St.  
Barbour, Edward Everett, 410 S. Bour-  
land Ave.; office, 333 Fulton St.  
Barbour, Orville Everett, 601 N. Sher-  
idan Rd.; office, 333 Fulton St.  
Bellas, Jos. Edward, 920 Hamilton  
Blvd.; office, 333 Fulton St.  
Bierly, James Roy, 112 N. Orange  
St.; office, 2135 S. Adams St.  
Blender, Wm., 843 Knoxville Ave.; of-  
fice, 333 Fulton St.  
Blickenstaff, Augustus J., 211 N. Glen-  
wood Ave.; office, 410 Main St.  
Bowen, Wilbur Lorenzo, 806 E. Mc-  
Clure St.; office, 212 S. Jefferson St.  
Boynnton, Lloyd V., 103 N. Maplewood  
Ave.; office, 2115 S. Adams St.  
Bradley, Edwin H., 112 High St.;  
office, 405 Main St.  
Bradley, Robt. C., 200 W. Virginia  
St.; office, 410 Main St.  
Brant, Effie McCall Croft, 211 W. Mc-  
Clure Ave.  
Brobst, Chas. David, 101 S. Adams St.  
Brobst, Chas. H., 107 High St.; office,  
101 S. Adams St.  
Burby, John E., 520 Bradley St.; office,  
405 Main St.  
Burhans, Ernest Chas., 811 N. Madi-  
son Ave.; office, 101 S. Adams St.

- Burbans, Levi Alden, 208 Bigelow St.; office, 101 S. Adams St.
- Burt, Elliott Prentice, 382 Callender Ave.; office, 1710 N. Sheridan Rd.
- Causey, Fredk. Archibald, 2108 Knoxville Ave.; office, 410 Main St.
- Chittick, Alex., 405 Main St.
- Coffey, Lee Mathew, 308 Bigelow St.; office, 212 S. Jefferson St.
- Cohen, Geo. Louis, 404 Evans St.; office, 321 Fulton St.
- Collins, Clifford U., 553 Moss Ave.; office, 333 Fulton St.
- Cooper, Ethel Florence, 409 E. Republic St.; office, 3028 S. Adams St.
- Cooper, Hugh Edwin, 164 Summit Blvd.; office, 405 Main St.
- Corcoran, Albert L., 103 Moss Ave.; office, 1501 Main St.
- Costeff, Harry, Peoria State Hospital.
- Cotton, James Allen (col.); 712 N. Jefferson St.; office, 110 Lincoln Ave.
- Coyle, Helen Carol, Mitchell Farm; office, 106 N. Glen Oak Ave.
- Cusack, Patrick Aloysius, 922 Hamilton Blvd.; office, 725 2n Ave.
- Cutter, Wm. Wrigley, 227 Grand View Dr.; office, 400 Main St.
- Davis, Elias L., 406 N. Glen Oak Ave.; office, 101 S. Adams St.
- Davis, Franklin S., 712 Hamilton Blvd.
- Davis, Willis H., 108 S. Jefferson St.; office, 333 Fulton St.
- Decker, Fred Henry, 2313A Western Ave.; office, 410 Main St.
- Diller, Harold Francis, 104 Knoxville Ct.; office, 410 Main St.
- Domke, Edward P., Peoria State Hospital.
- Duane, Jos. Francis, 630 Moss Ave.; office, 333 Fulton St.
- Durkin, Harry Anthony, 101 Roanoke Ave.; office, 333 Fulton St.
- Eastman, Joel Albert, 1212 N. Monroe St.; office, 101 S. Adams St.
- Easton, Milo Tripp, 219 Barker Ave.; office, 410 Main St.
- Easton, Sidney Harris, 104 W. Moss Ave.; office, 333 Fulton St.
- Eicher, Wm. B., 305 N. Madison Ave.
- Eichhorn, Herman G., 402 Barker Ave.; office, 101 S. Adams St.
- Ekonomou, Alexander Geo., 408 Main St.
- Ewers, Jos. Bernard, 204 N. University St.; office, 317 Fulton St.
- Farnum, Chas. Geo., 337 Parkside Dr.; office, 333 Fulton St.
- Feiker, Herman A., 1426 Western Ave.
- Fey, David Wm., 427 Moss Ave.
- Finnell, Jos. J. L., 200 N. Sheridan Rd.; office, 216 S. Adams St.
- Fischer, Clarence Geo., 124 Barker Ave.; office, 333 Fulton St.
- Floyd, Thos. Waller, 208 Ellis St.; office, 410 Main St.
- Foerter, Adolph J., 657 Moss Ave.; office, 126 N. Monroe St.
- Foster, Allan Adams, 1220 Columbia Terrace; office, 2222 S. Adams St.
- Garrett, Emmett A., 2019 Knoxville Ave.; office, 408 Main St.
- Gillespie, Edwin Simpson, 2913 N. Adams St.
- Goodwin, Perry Bird, 211 Prospect Rd.; office, 530 N. Glen Oak Ave.
- Gott, Wm. Arvel, 221 Missouri Ave.; office, 333 Fulton St.
- Green, Rolland Lester, 1609 N. Glen Oak Ave.; office, 101 S. Adams St.
- Haas, Ferdinand Franklin, 214 N. Institute St.; office, 408 Main St.
- Haley, Dorman Elroy Elbridge, 1121 N. Glendale Ave.; office, 229 S. Adams St.
- Hall-Kent, Alcina Edith, 810 N. Glen Oak Ave.
- Hammitt, Frank Coleman, 1909 N. University St.; office, 212 S. Jefferson St.
- Hanna, Robt. A., 815 Moss Ave.; office, 405 Main St.
- Haskins, Henry Ford, 113 N. Elmwood St.; office, 408 Main St.
- Hawkins, Herman Weitzel, 1802 Knoxville Ave.
- Hleiberger, Chas. Jackson, Jefferson Hotel; office, 333 Fulton St.
- Hession, Thos. Stephen, 204 Barker Ave.; office, 205 N. Adams St.
- Heymann, Bernard Benj., Jefferson Hotel; office, 700 S. Adams St.
- Hinkle, Wm. Albert, 212 Parkside Dr.; office, 333 Fulton St.
- Holbrook, Wm. Herbert, 415 Archer Ave.; office, 410 Main St.
- Honce, Alice, 1800 N. Madison St.
- Horwitz, Sandor, 928 Hamilton Blvd.; office, City Hall.
- Howard, Everett Edmunds, 215 Cooper St.; office, 101 S. Adams St.
- Hubbard, Argal Ernest, 1509 N. Perry Ave.; office, 212 S. Jefferson St.
- Hund, John, 219 Malone St.
- Ives, Leon C., 518 Barker St.; office, 410 Main St.
- James, Peter Franklin, 109 Melbourne Ave.; office, 333 Fulton St.
- Jenkins, James Thos., 105 Edgehill Ct.; office, 333 Fulton St.
- Jenkins, Wm. T., 333 Fulton St.
- Jennings, John Buford, 511 Prospect Ave.; office, 410 Main St.
- Johnston, Wm. Adams, 415 Prospect Ave.; office, 333 Fulton St.
- Jones, Perry Franklin, 110 Alice Ave.; office, 101 S. Adams St.
- Kannapel, Amzi Peter, 923 Knoxville Ave.; office, 333 Fulton St.
- Kelly, Everett Clyde, 208 N. University St.; office, 410 Main St.
- Kesling, Floyd Jennings, 701 Western Ave.
- King, Ray Woizeske, 211 Nowland St.; office, 2301 S. Adams St.
- Kirby, David Dennison, Big Hollow Knoxville Rd.; office, 310½ Liberty St.
- Knopp, Alfred Averill, 1800 Columbia Terr.; office, 333 Fulton St.
- Knowles, Henry Blaine, Peoria State Hospital.
- Levitin, Emil Zola, 200 Rebecca Pl.; office, 333 Fulton St.
- Lewis, Geo. Cecil (col.), 903 6th Ave.; office, 321 Main St.
- Limmer, Geo. L., Pere Marquette Hotel; office, 301 S. Adams St.
- Lucy, Lucia Hazzard, 310 N. Orange St.
- Margaret, Clarence Wm., 820 E. McClure Ave.; office, 333 Fulton St.
- Magee, Harry Bayne, 334 Crescent St.; office, 408 Main St.
- Major, Wm., 2500 Western Ave.; office, 3030 S. Adams St.
- Malcolm, Wm. Alexander, 949 N. Glen Oak Ave.; office, 410 Main St.
- Marrs, Wm. T., 515 Prospect Ave.
- Massey, Wm. Hinkle, 927 W. Virginia Ave.
- Maurer, Fredk. Henry, 705 E. McClure Ave.; office, 333 Fulton St.
- Mauricau, Van Buren, (Morton); office, 408 Main St.
- McCorvie, John Edward, 516 W. Armstrong St.; office, 212 S. Jefferson St.
- McCuskey, John Milton, 734 Linn St.; office, 333 Fulton St.
- McGrath, Philip Raphael, 333 Fulton St.
- McLaughlin, Saml. Mathew, 1416 Western Ave.
- McMahan, John Page, 105 N. Sheridan Rd.
- Meixner, Fred Morris Frankfort, 821 Moss Ave.; office, 410 Main St.
- Mellen, Charles S., 500 E. Arcadia St.; office, 421 S. Adams St.
- Meloy, John Earle, 201 W. Armstrong St.
- Meloy, Margaret Babcock, 201 W. Armstrong St.; office, 405 Main St.
- Michael, Wm. Alexander, 214 N. Bourland Ave.; office, 410 Main St.
- Michell, Geo. Washington, 106 Glen Oak Ave.
- Miller, Sumner Marcy, 100 Malvern Lane; office, 410 Main St.
- Morgan, Johanna Wilhelmina Bauer, 717 Starr St.
- Morrill, Frank Gillingham, 942 N. Glen Oak Ave.; office, 408 Main St.
- Nevins, Herhert, 1215 E. Republic St.
- Nystrom, Elmer Edwin, 1830 N. Jefferson Ave.; office, 400 Main St.
- Page, Theodore Herbert, 560 Moss Ave.; office, 333 Fulton St.
- Parker, Donna M. Theodosia, 508 Bradley Ave.; office, 301 S. Adams St.
- Parker, George Wm., 330 Parkside Dr.; office, 410 Main St.
- Parker, James W., 508 Bradley Ave.; office, 301 S. Adams St.
- Peattie, Saphie Eliza Bennett, 512 Bradley Ave.
- Petri, Kenneth Norman, 406 College St.; office, 2825 N. Adams St.
- Phillips, Albert Duane, 202 S. Maplewood Ave.; office, 3015 S. Adams St.
- Pintler, Hiram Edgar, 311 Indiana Ave.
- Pintler, Howard Lewis, 615 Atlantic Ave.; office, 216 S. Adams St.
- Plummer, Amzi Smith, 410 Knoxville Ave.; office, 101 S. Adams St.
- Pollak, Maxim, Peoria Municipal Tuberculosis Sanitarium.
- Powell, Vance M., 1315 N. Jefferson Ave.
- Price, Walter Jewell, 112 S. Bourland Ave.; office, 405 Main St.

Richardson, Kline M., 115 E. Corrington St.; office, 405 Main St.  
 Roberts, John Charles, 418 W. McClure St.; office, 212 S. Jefferson St.  
 Robertson, Molly Devereaux, Peoria State Hospital.  
 Robison, Harriet Nevins Ballance, 165 Flora Ave.  
 Roche, Wm. James, 715 Pacific Ave.; office, 410 Main St.  
 Roskoten, Oliver J., 114 Flora Ave.  
 Russo, Carmen Frank, Peoria State Hospital.  
 Rutherford, Leslie, 207 N. Maplewood Ave.; office, 212 S. Jefferson St.  
 Rutledge, Richard Martin, 317 N. Douglas St.; office, 405 Main St.  
 Seaburg, Elmer Walfred, 1017 N. Glendale Ave.; office, 410 Main St.  
 Sedgwick, Howard M., 909 Knoxville Ave.  
 Seward, Geo. Ralph, 1110 Smith St.; office, 405 Main St.  
 Shapiro, Jos., Peoria State Hospital  
 Shepperd, James Douglas (col.), 1209 2nd Ave.; office, 202 Main St.  
 Sibilsky, Carl Edward, 204 N. University St.; office, 400 Main St.  
 Sloan, John F., 233 N. Underhill St.; office, 410 Main St.  
 Smith, Geo. W., 801 Bigelow Ave.; office, 125 N. Jefferson St.  
 Sneller, Chas. Danl., 173 Flora Ave.; office, 212 S. Jefferson St.  
 Sours, James Ward, 225 Missouri Ave.; office, 2106 S. Adams St.  
 Sparks, Jos. P., 604 W. Barker St.; office, 408 Main St.  
 Sprenger, Arthur, 218 W. McClure Ave.; office, 333 Fulton St.  
 Spurck, Peter Thomas, 1204 North St.; office, 333 Fulton St.  
 Stacy, Geo. Herbert, 508 N. Douglas St.; office, 410 Main St.  
 Stone, Esther A. Hart, Peoria State Hospital.  
 Strause, Clifford Philip, 3121 Western Ave.; office, 212 S. Jefferson St.  
 Sutton, Robt. Mage, 314 S. Douglas St.; office, 405 Main St.  
 Swanson, Paul Edgar, 315 Livingston St.; office, 1426 Western Ave.  
 Thomas, Charles D., 464 Moss Ave.; office, 101 S. Adams St.  
 Trewyn, Bryant Hooper, 407 Warren St.; office, 2522 S. Adams St.  
 Turner, Clifton Sherwood, 603 Cooper St.; office, 333 Fulton St.  
 Turow, Irving, Peoria State Hospital.  
 Ulrich, Julius H., 709 Hayward St.; office, 403 Main St.  
 Vonachen, Harold Albert, 109 W. Virginia Ave.; office, 212 S. Jefferson St.  
 Vonachen, John Rudolph, 201 S. Maplewood St.; office, 410 Main St.  
 Ward, Clarence Vincent, 554 Peoria Ave.; office, 410 Main St.  
 Washburn, Geo. Ulysses, 448 Moss Ave.; office, 333 Fulton St.  
 Waugh, Fred Duvall, 1203 E. McClure Ave.  
 Weinkauff, Wilbur Herman, 429 Linn Ave.; office, 333 Fulton St.  
 Welton, Carroll B., Galena Rd.; office, 410 Main St.

Wharton, Jos. E., 110 S. Jefferson St.  
 Whipple, John A., 234 N. Madison Ave.  
 Whipple, Lewis Allen, 2508 Knoxville Ave.; office, 423 S. Adams St.  
 Whipple, Walter Burleigh, 234 N. Madison St.  
 Whitlock, Merle Horton, 214 Hanssler Pl.; office, 410 Main St.  
 Wiens, D. Peter, 112 Fredonia Ave.; office, 405 Main St.  
 Will, Otho B., 204 Randolph St.  
 Williams, Herbert Lewis. (See Bartonville.)  
 Williams, Wright C., 201 Rebecca Pl.; office, 333 Fulton St.  
 Wilson, Chas. P., 1609 Prospect St.; office, 127 S. Jefferson St.  
 Wilson, Henry Mason, 1510 Columbia Terr.; office, 410 Main St.  
 Wyatt, Wm. Walter, (1536 Prospect Rd., Peoria Heights); office, 101 S. Adams St.  
 Zeller, Fredericka C., 1007 Hamilton Blvd.  
 Zeller, Geo. Anthony, Peoria State Hospital.  
 Zook, Erle Will, Peoria State Hospital.  
**PEORIA HEIGHTS (PEORIA)**  
 Blake, Clyde Geo., 1107 Prospect Ave.  
 Wyatt, Wm. Walter. (See Peoria.)  
**PEOTONE (WILL)**  
 Holzhauer, Frank Arthur  
 Norman, Edith Emilie  
 Turner, James W.  
**PERCY (RANDOLPH)**  
 Barr, Clarence Melvin  
**PERRY (PIKE)**  
 Denny, Alden Ray  
**PERU (LA SALLE)**  
 Balensiefer, Otto. (See La Salle.)  
 Geiger, John Wolfgang. (See La Salle.)  
 Nauman, Benj. J.  
 Ream, Walter Joseph  
 Schneider, Frank Carl Emil  
 Taylor, Fred Clark  
 Yoder, Orle Chris  
**PESOTUM (CHAMPAIGN)**  
 Hilgenberg, James Francis  
**PETERSBURG (MENARD)**  
 Moulton, Horace P.  
 Newcomer, Irving  
 Plews, Thos. Vincent  
 Scott, Travis M.  
 Wilkins, H. E.  
**PHILO (CHAMPAIGN)**  
 Scheurich, Jos.  
**PINCKNEYVILLE (PERRY)**  
 Hiller, Frank Brooks  
 Kane, Wm. W.  
 Mathis, John Archibald, Hiller Hospital  
 Templeton, James Scott  
**PINKSTAFF (LAWRENCE)**  
 Lindsay, Arthur Robt.  
**PIPER CITY (FORD)**  
 Diddy, Lester Cornelius  
 Sauer, Henry Chas.  
**PITTSBURG (WILLIAMSON)**  
 Fuller, R. C.  
 Tidwell, Wm. Flint

## PITTSFIELD (PIKE)

Berry, Orland Harley  
 Dilts, Preston Vine  
 Lacy, Lincoln S.  
 McRaven, Cyrus Pilgrim  
 Peacock, Saml. B.  
 Shastid, William E.  
 Wells, Frank Newton

## PLAINFIELD (WILL)

Finkle, John Ralph  
 Porter, Grant  
 Ryden, Frank Alfred  
 Tate, Elza Franklin

## PLAINVILLE (ADAMS)

Aleshire, John Lenne

## PLANO (KENDALL)

Lord, Arthur Evarts  
 Schaefer, Rudolph A.

## PLEASANT HILL (PIKE)

Goodman, James Eugene  
 Wells, Russell Perry

## PLEASANT PLAINS (SANGAMON)

Fink, Frank Carl  
 Huher, Fred Delos  
 Staples, Melville Wright

## PLEASANTVIEW (Rushville

P. O.) (SCHUYLER)  
 Corman, Verne Martin

## PLYMOUTH (HANCOCK)

Irwin, Wentworth Lee  
 McDaniel, Thos. J.  
 Tuck, Wm. O.

## POCAHONTAS (BOND)

Gordon, Louis James  
 Hediger, Edward  
 Wilkins, David R.

## POLO (OGLE)

Beard, Leslie Alvey  
 Brigham, Chester Roy  
 Donaldson, Wm. Burns  
 Griffin, Leavitt Moore  
 Houston, Samuel D.  
 Keator, Louise Helmka. (See Dixon.)  
 McDaniel, Lee Roy  
 Rice, Eli Vestal

## PONTIAC (LIVINGSTON)

Bawden, Frank Clare  
 Beatty, Ernest Gaston  
 Crocker, Fletcher Lovell  
 Daly, Victor MacKay  
 Dargan, Clarence Martin  
 Marshall, James Allan  
 Meeks, Clark Champlin  
 Middleton, Alonzo Bolen  
 Nicolay, John W.  
 Parkhill, Homer Lewey  
 Pearson, Norman  
 Phillips, David Patterson, Illinois State Reformatory  
 Riess, Carl John  
 Scouller, John D.  
 Tripodi, Donald Wm.  
 Ward, Carl Fletcher  
 Young, John Glenn

## POPLAR GROVE (BOONE)

Brantley, John H.

## PORT BYRON (ROCK ISLAND)

Dailey, Oscar S.  
 Johnson, Henry W.



**POTOMAC (VERMILION)**

Cossairt, Wm. S.  
Ogle, Hiram E.

**PRAIRIE CITY (McDONOUGH)**

Cluts, Ahram C.

**PRAIRIE DU ROCHER**

(RANDOLPH)

Finley, John Thos.

**PRENTICE (MORGAN)**

Harris, Douglas Nebraska

**PRINCETON (BUREAU)**

Barrett, Chas. Cyrus  
Flint, Oliver Josephus  
Henry, Rolando H.  
Inks, Frank Emerson  
Larsen, Reuben Leonard  
Malm, August H.  
Nelson, Karl Magnus  
Nix, Milton Arthur  
Owens, Alfred Ellsworth  
Poppens, Peter Heije  
Scott, Chas. C.  
Steele, Henry Danford  
Troupa, Alhurt Burton

**PRINCEVILLE (PEORIA)**

Cutler, Morgan Geo.  
Henson, Earle E.

**PROPHETSTOWN**

(WHITESIDE)

Goff, Sidney Britton  
Kendrick, Frank Jesses  
Vandermyde, Isaac

**QUINCY (ADAMS)**

Austin, Adelbert Morton (Mendon);  
office, 529 Hampshire St.  
Baker, Wm. Hayden, 1809 Maine St.;  
office, 529 Hampshire St.  
Becker, Chas. Nicholas, Illinois Soldiers'  
and Sailors' Home and Hospital  
Beirne, Henry Peter, 648 Hampshire  
St.  
Bitter, Arthur Henry, 1654 York St.;  
office, 508 Maine St.  
Bitter, J. W. Edw., 1130 State St.  
Bitter, Milton Edward, 222 N. 24th  
St.; office, 629 Maine St.  
Blickhan, Alois J., 601 Broadway; of-  
fice, 701½ Maine St.  
Blickhan, Norbert Alois, 601 Broad-  
way; office, 701½ Maine St.  
Blomer, Jos. Henry, 1620 Jersey Ave.;  
office, 508 Maine St.  
Bortz, John Alex., 114½ N. 7th St.  
Brenner, Franklin Theodore, 124 East  
Ave.; office, 529 Hampshire St.  
Buchanan, Roht. F. (Dentist), 613½  
Maine St.  
Caddick, Earl L., 205 N. 24th St.; of-  
fice, 529 Hampshire St.  
Center, Chas. Dewey, 1824 Grove Ave.;  
office, 629 Maine St.  
Cohen, Frank, 2325 Hampshire St.; of-  
fice, 529 Hampshire St.  
Collins, Harry Otis, 124 N. 8th St.  
Ehle, Chauncey E., Illinois Soldiers'  
and Sailors' Home and Hospital  
Ericson, Chas. E., 205½ N. 8th St.  
Feldman, Harold Isadore (Intern), St.  
Mary Hospital

Gahriel, Carson King, 2315 Broadway;  
office, 508 Maine St.  
Germann, Aldo Knapheide, 1231 Maine  
St.  
Germann, Melinda C. Knapheide, 1231  
Maine St.  
Germann-Sinnoek, Hildegard Cather-  
ine, 1231 Maine St.  
Githens, Wm. K., 1228 Vermont St.;  
office, 400 State St.  
Green, Henry Lee, 623½ Hampshire St.  
Harris, Richard August, 1523½ N. 6th  
St.; office, 529 Hampshire St.  
Havens, James A. H., 524 Maine St.  
Holliday, Marion E. Lamke, 719 Pay-  
son St.  
Hoover, Seldon Rae, Jr., 722 N. 24th  
St.; office, 529 Hampshire St.  
Johnson, David Powell, 237 N. 8th St.  
Jurgens, Henry Jos., 1837 Jersey Ave.;  
office, 529 Hampshire St.  
Knapheide, Wm. S., 224 S. 12th St.;  
office, 639 Maine St.  
Knox, Thomas Blackburn, 534 N. 8th  
St.; office, 629 Maine St.  
Koch, John Adolph, 2226 Jersey Ave.;  
office, 800 Broadway  
Lambert, John R., 614 Spring St.  
Liesen, Anna M., 10th and Spruce Sts.  
Liesen, Francis H., 1117 Ohio St.  
Maupin, Howard Steward, 2532 Maine  
St.; office, 508 Maine St.  
McNeill, Charles, 428 6th Ave. N.  
McReynolds, Ralph, 2300 York St.; of-  
fice, 529 Hampshire St.  
Merar, Thos. James, 629 Maine St.  
Mercer, Ray, 1624 York St.; office, 508  
Maine St.  
Merritt, James Francis, 123 S. 8th St.  
Miller, Clara, 1866 Grove Ave.; office,  
Hillcrest Sanatorium  
Miller, J. Estill, 2125 Grove Ave.; of-  
fice, 508 Maine St.  
Montgomery, Edmund B., 1461 Ver-  
mont St.; office, 134 N. 8th St.  
Nickerson, Levin H. A., 120 N. 18th  
St.; office, 615 Hampshire St.  
Nunn, John C., 1601 Broadway  
Pearce, Warren Fredk., 2130 Prairie  
Ave.; office, 529 Hampshire St.  
Perley, Arthur Eugene, 506 Maine St.  
Pollock, John Roy, 726 S. 22d St.;  
office, 508 Maine St.  
Potter, Ralph Edgar, 930 N. 5th St.;  
office, 211 N. 5th St.  
Reiffert, Marion F., 124 N. 8th St.  
Rhodes, Thos. Whitson, 608 Broadway;  
office, Health Department  
Richardson, Ethyl Harriet, 835 Cedar  
St.  
Rieniets, John Henry, 726 N. 24th St.  
Ross, Edward (intern), St. Mary Hos-  
pital  
Shawgo, Kirk, 2043 Maine St.; office,  
529 Hampshire St.  
Shulian, Orie Frank, 300 East Ave.;  
office, 529 Hampshire St.  
Steiner, David D., 931 N. 5th St.; of-  
fice, 501½ Hampshire St.  
Steiner, J. Carl, 224 S. 24th St.; of-  
fice, 529 Hampshire St.  
Stevenson, Walter Davis, 709 S. 24th  
St.; office, 508 Maine St.  
Strohl, Harley (107 S. Lincoln Ave.,  
Urhan); office, 110 S. 5th St.

Swanberg, Harold, 1437 Maine St.; of-  
fice, 508 Maine St.  
Trader, Wm. Arthur, 2311 Vermont  
St.; office, 535 Hampshire St.  
Wells, Clarence, 315 N. 24th St.; of-  
fice, 646 Hampshire St.  
Werner, August William, 1401 State St.  
Whitaker, Walter Merrill, 2535 Broad-  
way; office, 508 Maine St.  
Williams, Wm. Warren, 1251 Maine St.  
Wineberg, Isaac Henry, 819 N. 5th St.  
Zimmerman, Ernst, 320 S. 14th St.;  
office, 632½ Maine St.  
Zimmermann, Wm., 513 Hampshire St.;  
office, 632½ Maine St.

**RAMSEY (FAYETTE)**

Farthing, Edgar W.  
Fromm, August Molkel  
Staff, Edmund Peter  
Van Vranken, Geo. R.

**RANKIN (VERMILION)**

Goodwin, Grover Cleveland  
Liggitt, Fleming L.

**RANSOM (LA SALLE)**

Ryan, Thos. Emmet

**RANTOUL (CHAMPAIGN)**

Ballantyne, Lowyd Whitcombe R., Cha-  
nute Field  
Diller, Francis S.  
Donovan, Wm. P.  
Mason, Kirk Patrick, Chanut Field  
Morton, Vernon Curry  
O'Connell, John C.

**RAVINIA (LAKE)**

Lyons, Andrew James (See Hines)  
Lyons, Mary Mulcahy  
Weinfeld, Gustave Frankel (Moraine  
Hotel, Highland Park)

**RAYMOND (MONTGOMERY)**

Driskell, Cecil Rogers  
Zulauf, Walter Christian

**RED BUD (RANDOLPH)**

Le Saulnier, Herman Louis  
Pautler, Ermin Anthony  
Riess, John Turk  
Schellschmidt, Arthur F.  
Smith, Charles G.

**REDMON (EDGAR)**

Jones, Wm. S.

**RENAULT (MONROE)**

Church, Harry Sylvester

**REYNOLDS (ROCK ISLAND)**

Danielson, May  
Knutson, Anton  
Moore, Landon Clay

**RICHMOND (McHENRY)**

Bettag, Jos. Lawrence  
Cole, Mary C. Shibley  
McLaughlin, Alan Fleming  
Ward, Saml. R.

**RIDGE FARM (VERMILION)**

Dice, Henry Foster  
Hubbard, Saml. A. Myers  
Pierce, Jos. Cooper

**RIDGWAY (GALLATIN)**

Green, Edgar Agassiz  
Murphy, John Chas.  
Riley, Wm. H.

**RINGWOOD (McHENRY)**

Hephurn, Wm.

**RIO (KNOX)**

Brown, James Harry

**RITCHEY (WILL)**

Hazelton, LeGrand F.

Williams, Francis A.

**RIVERTON (SANGAMON)**

McMahon, Curtman

Smith, Jos. Henry

**ROANOKE (WOODFORD)**

Rodaway, Roy Thomas

Wyatt, James T.

**ROBERTS (FORD)**

Colteaux, John Alfred

Rueck, Erwin J.

**ROBINSON (CRAWFORD)**

Allen, Arthur Woodson

Allen, James Lavern

Brooks, Alan Goodwin

Carlisle, Jonas Whittier

Davis, James E.

Griffy, Roy

Long, John Wm.

Lowe, Ausby Lyman

Meserve, Arthur G.

Newlin, LeRoy

Rafferty, Herbert N.

Rafferty, Theodore Newell

Schmidt, Gustav F.

Schmidt, Gustav Francis, Jr.

**ROCHELLE (OGLE)**

Andreen, Frank Godfrey

Bogue, Arthur Reuben

Clarke, Chas. Perry

Diederich, Josie Kennedy

Kittler, Walter Eugene

MacEachern, Thos.

Schaller, Clarence Henry

Unger, Chas. P.

**ROCHESTER (SANGAMON)**

Bell, James Marshall

Wright, Lyman Dresser (See Springfield)

**ROCK CITY (STEPHENSON)**

Selden, Bryant Richard

**ROCK FALLS (WHITESIDE)**

Allen, Stephen Alex (505 B. Ave., Sterling)

Dow, Ernest L.

Frye, Clarence Maxfield (606 2d Ave., Sterling)

Pohly, Glenn Jacob

**ROCKFORD (WINNEBAGO)**

Ackemann, Harry Wm., 310 Auburn St.; office, 321 W. State St.

Anderson, Enor Gilbert, 1102 Broadway

Andrus, S. Claude, 624 Park Ave.; office, 425 E. State St.

Anthony, Robt. Ernest, 407 Churchill St.; office, 315 W. State St.

Bailey, Harry Brawley, 204 N. Independence Ave.; office, 504 E. State St.

Bartling, Carl Herman, 1811 Oxford St.; office, 401 W. State St.

Baumann, Theodore Andrew, 5210 East Dr.; office, 5420 N. 2d St.

Bendes, Jacob Harry, 1504 Myott Ave.; office, Rockford Municipal Sanatorium

Beyer, Wm. Stewart, 957 N. Church St.; office, 321 W. State St.

Beynon, James Valentine, 948 N. Main St.; office, 321 W. State St.

Bissekumer, Roger Martin, 1130 Crosby St.; office, 208 W. State St.

Blomberg, Thorsten Emil, 2322 E. State St.

Boswell, Clarence Henry, 1951 Harlem Blvd.; office, 303 N. Main St.

Bosworth, Robinson, Rockford Municipal Sanitarium

Bourland, Roht. Collyer, R. D. 9.; office, 226 S. Main St.

Bowers, Lewis Lenore, 1136 Grant Ave.; office, 208 W. State St.

Bullock, Norman Chas., 1728 Rural St.; office, 303 N. Main St.

Burdick, Ward Palmer, 127 N. Highland Ave.; office, 306 E. State St.

Calkins, Frederick W., 745 John St.; office, 206 W. State St.

Canfield, Harry Eugene, 1018 Harlem Blvd.; office, 202 S. Main St.

Carlstrom, Fred John, Parkview Ave.; office, 1139 Broadway

Catlin, Sanford Robinson, 1701 National Ave.; office, 321 W. State St.

Christenson, Albert Wm., 1536 Jackson St.; office, 208 W. State St.

Cihelius, Charles Anthony, 831 Overlook Rd.; office, 321 W. State St.

Connell, Arthur John, 2104 Auburn St.; office, 202 S. Main St.

Countryman, Howard Dick, 1507 Grant Ave.; office, 321 W. State St.

Crawford, Woodruff Lynden, 1325 Camp Ave.; office, 321 W. State St.

Culhane, Thos. H., 1003 N. Church St.; office, 202 S. Main St.

Cunningham, Oral Dewitt, 1512 Myott Ave.; office, 208 W. State St.

Cunningham, Wm. Harry, 1035 Harlem Blvd.; office, 301 W. State St.

Dagnault, J. Alphonse, Nelson Hotel; office, 208 W. State St.

Davis, Harry Hogle, 630 N. 1st St., office, 206 W. State St.

Davis, Henry Levi, 825 N. Church St.; office, 321 W. State St.

Dubiel, Chas. Roman, 1010 N. Franklin Pl.; office, 206 W. State St.

Earnsey, Willard Phelps, 715 Reynolds St.; office, 208 W. State St.

Edson, Hohart Wm., 1334 E. State St.; office, 427 E. State St.

Egdahl, Anfin, 1823 Clinton St.; office, 321 W. State St.

Elmer, Wm. Hart, 910 Garfield Ave.; office, 321 W. State St.

Eneboe, Paul L., Swedish American Hospital

Erickson, Alfonso Howard, 120 St. Louis Ave.; office, 115 7th St.

Erickson, Chas. Adolph, 2410 Crosby St.; office, 427 7th St.

Fell, Egbert W., Dr. Wilgus' Sanitarium

Ferrias, Irving Benwith, 503 7th St.

Ford, Wm. Kenneth, 1911 Oxford St.; office, 321 W. State St.

Franceschi, Biagio, 1266 Clover Ave.; office, 1126 S. Main St.

Fringer, Wm. Rudisel, 109 Sheridan St.; office, 226 S. Main St.

Goembel, Emery Wells, 1030 N. 2d St.; office, 301 W. State St.

Grant, Richard Suydam (col.), 205 S. Main St.

Green, John Alhert, 1536 Harlem Blvd.; office, 226 S. Main St.

Greenwood, Libburn Silvas, 551 Lawn Dr.; office, 5450 N. 2d St.

Guagliata, Vincent, 1226 Garrison Ave.; office, 921 S. Main St.

Gunderson, Nordahl Osmund, 220 Fairfield Ave.; office, 124 S. 1st St.

Hamlin, Fredk. J., 712 N. Court St.; office, 202 S. Main St.

Hanstrom, Clara Elizabeth, 514 6th St.; office, 321 W. State St.

Heinemeyer, Floyd LaVerne, 714 John St.; office, 321 W. State St.

Heller, Theodore, St. Anthony's Hospital

Ives, Warren Chamberlain, 332 King St.; office, 321 W. State St.

Johnson, James Knox, 515 Paris Ave.; office, 1102 Broadway

Johnson, Paul Thos., Winnebago County Hospital

Johnson, Thomas Arthur, 130 S. Prospect St.; office, 503 7th St.

Kile, Ray Porter, 2215 Clinton Pl.; office, 401 W. State St.

Kinley, Thos. Fulton, 714 Garfield Ave.; office, 208 W. State St.

Krauss, Thos. Fredk., 1324 Evelyn St.; office, 303 N. Main St.

Lang, Theodor, St. Anthony's Hospital

Leonard, Chas. Luke, 1632 Harlem Blvd.; office, 208 W. State St.

Leonard, Eugene Thos., 1632 Harlem Blvd.; office, 208 W. State St.

Leonard, Ruth, 1819 Oxford St.; office, 321 W. State St.

Lindstedt, Norman Arthur, 1127 12th Ave.; office, 1141 Broadway

Lofgren, Emil, 119 Summit St.; office, 501 7th St.

Lundholm, Jos. Sebastian, High Crest Rd.; office, 425 E. State St.

Maas, Elizabeth C., 212 N. Wyman St.

Magnolia, August Leo., Nelson Hotel; office, 208 W. State St.

Maloney, John Howard, 1108 North Ave.; office, 210 W. State St.

McCrimmon, Herman Patrick, 1821 Camp Ave.; office, 427 E. State St.

Mertz, Elmer Leonard, Spring Creek Rd., Bradley Heights; office, 321 W. State St.

Miller, Warren Mahlon, 2418 Clinton Rd.; office, 206 N. Wyman St.

Moore, Homer Frank, 927 N. Court St.; office, 321 W. State St.

Moshy, H. Petrie, 2209 Clinton Pl.; office, 303 N. Main St.

Nyman, Carl V., 1220 Revell Ave.; office, 501 7th St.

Ochsner, Emil A., 1702 E. State St.; office, 503 7th St.

Ochsner, Ernest E., 1535 E. State St.; office, 427 E. State St.

O'Donnell, Wm. J., 1801 National Ave.; office, 1027 S. Main St.

Olson, Olof Alfired, 2016 S. 5th St.; office, 424 7th St.

Oshorne, Ray Randle, 1357 5th Ave.; office, 528 W. State St.

Owen, Alfred Beam, 1717 Harlem Blvd.; office, 321 W. State St.



Palmer, Harold Dwight, 1718 Camp Ave.; office, Rockford Hospital  
 Pearman, Arthur, 1404 National Ave.; office, 321 W. State St.  
 Porter, John Rice, 724 Auburn St.; office, 321 W. State St.  
 Quandt, Eberhardt Hermann, 2301 Cumherland St.; office, 1305 Auburn St.  
 Quattlebaum, Edwin Gustavus, Jr., 125 Lawn Pl.; office, 226 S. Main St.  
 Ranseen, Carl Matthew, 1618 S. 5th St.; office, 244 7th St.  
 Ransom, Wilmot Leland, 328 King St.  
 Reedy, Robt. Aaron, 1854 E. State St.; office, 424 7th St.  
 Ritchie, Wm. J., 217 Guard St.; office, 419 W. State St.  
 Rogers, Maurice Pearse, Spring Creek Rd.; office, 401 W. State St.  
 Roseborough, Albert Skiffington, 523 N. Avon St.; office, 208 W. State St.  
 Rundquist, Emanuel Matthew, 431 Paris Ave.; office, 501 7th St.  
 Searle, Henry Reed, 2102 Auburn St.; office, 321 W. State St.  
 Settle, Emmett Bird, Swedish American Hospital  
 Severson, James Melvin, 1250 Garri-son Ave.; office, 226 S. Main St.  
 Sheeche, Norman Leo, 531 Indian Terr.; office, 208 W. State St.  
 Shipley, Manly Harrison, 1030 Broad-way  
 Shultz, Louis A., 634 Whitman St.; of-  
 fice, 208 W. State St.  
 Steurer, Justin, 421 N. Prospect St.;  
 office, 206 W. State St.  
 Swanson, Adolph Martin, 423 London  
 Ave.; office, 503 7th St.  
 Tenney, Roy Edward, 1964 Harlem  
 Blvd.; office, 208 W. State St.  
 Thiell, James Edward, 1007 N. 2d St.;  
 office, 226 S. Main St.  
 Tindall, Floyd Geo., 142 Lawn Pl.; of-  
 fice, 303 N. Main St.  
 Tulisalo, Oscar Wilhelm, 4620 Arling-  
 ton St.; office, 305 S. Main St.  
 Turner, Franklin A., Faust Hotel; of-  
 fice, 208 W. State St.  
 Urbom, Carl V., R. D. 10; office, 327  
 7th St.  
 Van de Steeg, Wm. Gilbert, 2027 Mel-  
 rose St.; office, 425 E. State St.  
 Van Voorhis, J. Frank, 1809 Post Ave.  
 Vetter, James Harry, 1940 Harlem  
 Blvd.; office, 321 W. State St.  
 Waldron, Joel Harvey, 128 N. Church  
 St.; office, 122½ N. Main St.  
 Walker, Chas. A., 1908 Harlem Blvd.;  
 office, 202 S. Main St.  
 Warner, Harry Reuben, 813 Main St.;  
 office, 321 W. State St.  
 Wehn, Clifford Chas., 1917 Harvard  
 Ave.; office, 528 W. State St.  
 Weld, Anna, 977 N. Main St.; office,  
 307 N. Main St.  
 Weld, Edward Howland, N. 2d Street  
 Rd.; office, 307 N. Main St.  
 Weld, Fredk. J., 1228 N. Court St.;  
 office, 204 S. Main St.  
 Wiley, Howard Ellsworth, 222 N. 5th  
 St.; office, 425 E. State St.  
 Wilgus, Sidney D., 1422 National Ave.;  
 office (750 S. State St., Elgin)  
 Woodward, King Grier, 2219 Clinton  
 Pl.; office, 321 W. State St.

Wormley, Harry Ralph, 901 Garfield  
 Ave.; office, 315 W. State St.  
 Wright, Chas. Ely, 205 Cottage Grove  
 Ave.; office, 206 S. Main St.  
 Yovaish, Walter, R. D. 7; office, 321  
 W. State St.

## ROCK ISLAND (ROCK ISLAND)

Adler, Stuart Welsh, 1604 22d St.; of-  
 fice, 1802 3d Ave.  
 Anderson, Ernest Albert, 1010 21st  
 St.; office, 3d Ave. and 15th St.  
 Asay, Jos. Elwell, 2433 13th Ave.; of-  
 fice, 1701 2d Ave.  
 Belyea, Reginald Joy, 3524 12th Ave.;  
 office, 1725 3d Ave.  
 Bradford, Eli H., 602 18th St.; office,  
 1705 2d Ave.  
 Carlson, Hada M. Burkhart (1406 21st  
 Ave., Moline); office, 230 16th St.  
 Condon, Edwin Francis, 710 25th St.;  
 office, 124 18th St.  
 Craig, Geo. G., 1720 7th Ave.  
 Dart, Ralph, 741 22d St.; office, 1705  
 2d Ave.  
 Davenport, Frank Noble (See Moline)  
 Davis, Colbert Smith (col.), 720 13th  
 St.  
 de Silva, Edward Burbank, 1802 3d  
 Ave.  
 De Silva, Jos., 608 20th St.; office,  
 1802 3d Ave.  
 Eckhardt Peter, 1102 12th St.  
 Economus, Themis C., 207 18th St.  
 First, Frank H., 1215, 20th St.; office,  
 208 18th St.  
 Friedman, Herman J., 2411 21st Ave.;  
 office, 124 17th St.  
 Jones, Benj. E., 837 23rd St.  
 Keatley, Harry W., U. S. Relief Sta-  
 tion  
 Lachner Bernard Joseph, 1631 24th  
 St.; office, 1725 3d Ave.  
 Manning, Thos. F., 301½ 20th St.  
 Marston, Ernest L., 1930 10th St.  
 McEvers, Albert Edwin, 2204 30th St.;  
 office, 1725 3d Ave.  
 Miller, Herbert Payne, 2329 20½ Ave.;  
 office, 1705 2d Ave.  
 Moore, Nelvin Merritt, 2016 4th Ave.  
 Mueller, Albert Nicholas, 550 26th St.  
 O'Hern, Michael J., 326½ 20th St.  
 O'Neill, Clement Paul (630 10th St.,  
 Moline); office, 1802 3d Ave.  
 Ostrom, Louis, 1037, 21st St.; office,  
 124 18th St.  
 Ostrom, Meredith Louis Hult, 2220  
 26th St.; office, 124 18th St.  
 Paul, Danl. Frank, 1200 25th St.; of-  
 fice, 208, 18th St.  
 Petrie, Marietta Bechtel, 1318 44th St.;  
 office, 1705 2d Ave.  
 Reed, Cora L., 1920 4th Ave.  
 Rohb, Chas. Elhert, 1725, 24th St.;  
 office, 1725 3d Ave.  
 Robinson, Leon Edward, 1354 23rd  
 Ave.; office, 1705 2d Ave.  
 Ro-how, Carl I. F., 1612 22d St.; of-  
 fice, 208 18th St.  
 Sala, Roland Otto, 322 19th St.  
 Schroeder, Wm. Fredk., 1721 25th St.;  
 office, 1725 3d Ave.  
 Shuman, Harry Willard, 923 23rd St.;  
 office, 1725 3d Ave.

Snively, Wm. D., 1216 16th St.; office,  
 1800 3d Ave.  
 Souders, John Cloyd, 1332 42d Ave.; of-  
 fice, 1705 2nd Ave.  
 Stocker, Alfred, 1151 25th St.  
 Walker, Herbert Leroy, 940 23d St.;  
 office, 1802, 3d Ave.  
 Williams, Arthur Edward, 1617, 21st  
 St.; office, 1829 4th Ave.  
 Wray, Austin L., 1025 12th St.  
 Youngberg, Paul Philip (See Moline)

## ROCKPORT (PIKE)

Welch, J. Harvey

## ROCKTON (WINNEBAGO)

Cochran, Earl Roht.

## ROODHOUSE (GREENE)

Bucklin, Nathaniel J.  
 Edwards, Orville Logan  
 Hamilton, Logan Orville  
 Hunt, Henry Eben  
 Smith, Henry Woodul  
 Thomas, Chas. Rainey

## ROSELLE (DU PAGE)

Volberding, Harry Henry

## ROSEVILLE (WARREN)

Clarke, Geo. Wm.  
 Hoyt, Lee Turner  
 Pittman, Wm. E.  
 Simmons, Danl. Anderson

## ROSICLARE (HARDIN)

DeVelling, John Robin  
 Hancock, Stephen Decatur

## ROSSVILLE (VERMILION)

Donovan, Roscoe P.  
 Mason, John Cyrus  
 Ray, Danl. V.

## ROUND KNOB (MASSAC)

Crow, James A.

## ROUND LAKE (LAKE)

Levey, Harry Barney  
 Stanton, John Edward

## ROXANA (MADISON)

Diebl, Christian Herman

## ROYALTON (FRANKLIN)

Tweedy, Walter R.

## RUSHVILLE (SCHUYLER)

Ball, Amos Willis  
 Bates, Geo. Campbell  
 Carey, Chas. Kennedy  
 Culbertson, Fredk. David  
 Fleming, Carl Marshall  
 Justus, Wm. F.  
 Munson, Henry Orson  
 Schenk, Myron Clark

## RUSSELLVILLE (Vincennes, Ind., P. O.) (LAWRENCE)

Sprinkell, Clinton J.

## RUTLAND (LA SALLE)

Peterson, Sophus Geo.

## SADORUS (CHAMPAIGN)

Ricketts, Marion Masters

## SAILOR SPRINGS (CLAY)

Shore, John P. J.  
 Sparling, Arthur Marion

## ST. ANNE (KANKAKEE)

Benjamin, Ralph Linwood  
 Flint, Clarence Wallace (See Chicago)  
 Hagstrom, Wm. Jos.



## PRESENT STATUS OF IDIOPATHIC ULCERATIVE COLITIS, WITH ESPECIAL REFERENCE TO ETIOLOGY

Moses Paulson, Baltimore (*Journal A. M. A.*, Nov. 25, 1933), points out that avitaminosis as a cause of ulcerative colitis is not supported by clinical experience, although the experimental evidence is striking. Vagotonia, as well as disturbances of calcium metabolism, has been thought to play a part in the etiology. There is neither satisfactory direct evidence nor properly controlled confirmatory studies establishing a specific or primary etiologic association between any bacterium and chronic ulcerative colitis. The definite connection between foci of infection and the etiology of this condition remains to be proved both experimentally and clinically. Experimental data indicate the nonspecificity of bacterial influences in this disorder. Recent work suggests that the greater and more prolonged the bleeding, regardless of the cause, the greater will be the diminution of the flora and the more marked the relative increase in cocci. These cocci, and to a lesser extent the other surviving intestinal organisms, normally present, probably are responsible for a secondary infection. Recurrences at present are certain to occur in all but the exceptional cases. The possibility of permanent cure is remote. There is no specific therapy, since the specific etiologic factor, if there is any, remains to be determined and the therapeutic response is not specific. Ileostomy is regarded as the operation of choice and should take place earlier than is practiced usually.

## PRESENT STATUS OF ETHYLENE

In summing up the reported explosions, injuries and deaths, due to ethylene, Isabella C. Herb, Hubbard Woods, Ill. (*Journal A. M. A.*, Nov. 25, 1933), found twenty explosions, with one injury and five deaths due to ethylene, two deaths due to mixture of nitrous oxide-oxygen and ethylene and thirty-nine explosions with seven injuries and five deaths due to nitrous oxide-oxygen-ether. Nine explosions occurred when the machines had been idle from a few minutes to two or more hours. The machines had been used for ethylene administration in two instances and for nitrous oxide-oxygen-ether in seven of these explosions. From the foregoing it is evident that nitrous oxide-oxygen-ether forms as highly an explosive mixture as does ethylene, and precautions against this danger are fully as urgent as is required with ethylene-oxygen. Some of the injuries that occurred both with ethylene and with nitrous oxide-oxygen-ether were due to the ignition of the ether in the glass ether chamber of the gas apparatus. The breaking of this chamber scattered the glass and ether about the room, causing fires and burns. Two deaths were recorded due to impure ethylene (carbon monoxide), two in the hands of "inexperienced administrators," and one due to "vasodilatation." The author believes that the death due to vasodilatation should be attributed to operative conditions, such as hemorrhage, as ethylene does not produce or contribute to shock. If it destroys life, it does so through insufficient administration of oxygen, which would be asphyxia.

## KNEE JOINT ARTHROPLASTY

W. Russell MacAusland, Boston (*Journal A. M. A.*, Nov. 25, 1933), in knee arthroplasty, has frequently encountered the complication of infection of the operative wound, from latent foci of infection. He is certain that the complication is not due to operative sepsis, as the infection has appeared too late after intervention. He presents four cases in which the infection could definitely be traced to a dormant focus situated elsewhere in the body and states that every possible site of a latent infection—pelvis, tonsils and teeth—must be carefully checked. He does not advise arthroplasty until one and a half years after all signs of infection have disappeared. When the joint is ankylosed as the result of a tuberculous process, mobilization is approached with extreme caution for such diseased joints may retain small walled-off foci throughout life. In the rare case in which the health is excellent and in which there has been no evidence of an active process for years, a tuberculous joint may be mobilized successfully. The most favorable ages for arthroplasty are those from adolescence to 40 or 45 years. The author emphasizes careful modeling of the joint surfaces in that it preserves the stability of the joint and avoids the development of arthritic changes in later years. He never sacrifices stability for the sake of obtaining motion. There is a provision made in his technic to preserve stability and to ensure a joint that will not be subject to arthritic changes.

## IT ALL DEPENDS

Clarice—"Don't you think George dresses nattily?"  
Flourine—"Natalie who?"—*U. S. S. Melville Job Order.*

## Society Proceedings

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

Wednesday, December 6, 1933

Regular Meeting

#### PNEUMONIA SYMPOSIUM

The Limitations of Serum Treatment. Lloyd Felton, Assistant Professor of Preventive Medicine and Hygiene, Harvard University Medical School.

General Discussion opened by Frederick Tice, Emeritus Professor Medicine, University of Illinois, School of Medicine, Charles Schott, Pediatrician, St. Joseph's and Children's Memorial Hospitals.

Hugh O. Jones, Director Medical Section, Chicago Board of Health.

Wednesday, December 13, 1933

Regular Meeting

#### UROLOGICAL SYMPOSIUM FOR THE GENERAL PRACTITIONER

By

UNIVERSITY OF ILLINOIS, COLLEGE OF MEDICINE

Opening Statement. D. J. Davis, Dean.

The Pathogenesis of Nephritis Due to Cold. Alexander J. Nedzel, Associate Professor of Bacteriology.

Demonstration and Significance of Office Laboratory Procedures of Practical Value in the Treatment of Genito-Urinary Infection. Russell Herrold, Assistant Professor of Surgery; Earl E. Ewert, Associate in Surgery.

The Significance of Microscopical and Macroscopical Blood in the Urine. Charles M. McKenna, Professor of G. U. Surgery.

The Relation of Hemophilia to Genito-Urinary Disease. Carroll L. Birch, Assistant Professor of Medicine.

General Discussion opened by Lloyd Arnold, Head of Department of Bacteriology.

Wednesday, December 20, 1933

Regular Meeting

#### GOITER SYMPOSIUM

Opening Statement—Dean Lewis, President, American Medical Association.

The Diagnosis and Management of Thyroid States as the General Practitioner Sees Them—Frank H. Lahey, Boston, Massachusetts.

Discussion: Surgery—Nelson Percy. Endocrinology—James H. Hutton; Internal Medicine, Charles A. Eliott; Radiology, Maximilian Hubeny; Ophthalmology, Michael Goldenburg.

#### KANE COUNTY

Kane County Medical Society met at the St. Joseph's Hospital in Aurora on December 13, 1933. A very fine dinner was served to sixty-five members, guests and Ladies' Auxiliary.

A short business meeting was followed by the election of officers for the coming year.

Dr. R. H. Graham of Aurora was elected President; Dr. R. C. Hetherington of Geneva, Vice-President; Dr. K. M. Manougian of Elgin, Secretary-Treasurer, retaining his post for the last year of his term of office of three.

Dr. Chas. F. Reed, the managing officer of Elgin State Hospital, gave a very excellent talk on "Various Phases of the Insanity Problem."

The number of the insane in and out of institutions, the criminals and insanity, the defectives and sterilization were pertinent questions asked and discussed.

Dr. F. N. Marsteller of Geneva spoke on "The County Supervisor and the Care of the Indigent." This was a revelation of the subtle ways of the politician in dispensing public funds for charity.

As a mark of last respect to a departing member, Dr. A. E. Diller of Aurora, the Society stood up while Dr. Schwingel of Aurora, read the obituary.

K. M. MANOUGIAN, M. D., Secretary.

#### PEORIA CITY MEDICAL SOCIETY

December 1, 1933.

At the meeting held Tuesday, December 5, Frederick Christopher, M. D., associate professor of surgery at

Northwestern, discussed the following unusual surgical cases:

- a. Ileac Carcinoid.
- b. Rupture of the Intestine following Football Injury.
- c. Multiple Neuritis following Gallbladder Surgery.
- d. Spreading Carbuncular Infection.
- e. Diaphragmatic Hernia.
- f. Smith-Petersen Operation for Fractured Hip.

A vote on an amendment to the by-laws, Chapter 2, Section 5, as follows: "The Peoria City Medical Society enters into a gentlemen's agreement with the insurance companies that cases will not be lifted unless inadequate treatment has been given by the doctor in charge; that violators of Section 3, Article 4, of the Principles of Medical Ethics of the American Medical Association shall be suspended from the Peoria City Medical Society."

For purpose of information Section 3, Article 4, of the Principles of Medical Ethics of the American Medical Association is as follows: "A physician should never take charge of or prescribe for a patient who is under the care of another physician except in an emergency until after the other physician has relinquished the case or has been properly dismissed."

The nominating committee presented the following slate for election of officers on December 19:

President, Dr. A. P. Kannapel; 1st vice-president, Dr. George Parker; 2nd vice-president, Dr. W. W. Cutter; secretary-treasurer, Dr. C. W. Magaret; censor, Dr. Wm. Major; delegate, Dr. E. C. Kelly; alternate, Dr. Leslie Rutherford.

H. E. COOPER, Pres.

C. W. MAGARET, Secy.

#### Marriages

Harry John Fausel to Miss Lydia A. Schmidt, both of Chicago, at Cincinnati, November 30.

Rocco John Fazio to Miss Concetta Anna Vacca, both of Chicago, October 21.

J. Talbot Gernon, Chicago, to Miss Lorena Fredericka Mueller of Minneapolis, at Chicago, December 2.

Andrew Le Roy Karabin, Chicago, to Miss Clare Hazinski of South Bend, Ind., October 31.

Edward John Kloess, Belleville, Ill., to Mrs. Beulah Scott Mason of Leadwood, Mo., October 9.

Alvin Leroy Mathis, Elmhurst, Ill., to Mrs. Sue Ellen Lay Baisch of Oak Park. September 14.

Thomas Robert Plumer, Trivoli, Ill., to Miss Helen Cornelius of Peoria, November 15.

Ivan Magnus Sandberg, Lostant, Ill., to Miss



Charlotte Drew of Iron Mountain, Mich., at Tiskilwa, October 13.

William Christopher Schiele, Galena, Ill., to Miss Ruth Enderes at Joliet, October 8.

Rudolph B. Siegert, Pana, Ill., to Miss Margaret Mary Twiss of Chicago, in November.

Charles G. Smith, Red Bud, Ill., to Miss Madlen Hauff of Chicago at West Chester, Pa., October 4.

Paul E. Swanson, Peoria, Ill., to Miss Elizabeth Christensen of Virginia, Minn., September 2.

### Personals

Dr. Agnes Beulah Cushman discussed "Pituitary Headaches" before the Chicago Council of Medical Women, December 1.

Dr. Harriet Daniel, Murphysboro, has been appointed pediatrician to the state health department, it is reported.

Dr. Harold Hoover has been appointed assistant in medicine in the department of internal medicine, University of Illinois College of Medicine.

Among other speakers, Dr. Joseph Greengard spoke on "Comparative Tuberculin Tests in Children" before the Chicago Tuberculosis Society, December 14.

Dr. Ernest Sachs, St. Louis, spoke before the St. Clair County Medical Society in Belleville, December 3, on "Diagnosis and Treatment of Brain and Spinal Cord Injuries."

Dr. Max Thorek has been elected a Corresponding Member of the Surgical Society of Madrid, Spain.

Dr. Otto H. Crist, Danville, was elected president of the Wabash Valley Aesculapian Society recently. The semiannual meeting will be held in Danville in May.

At a meeting of the Chicago Society of Internal Medicine, November 27, Dr. Joseph L. Miller, among others, spoke on "Chronic Rheumatic Diseases of the Spine."

Dr. Joseph L. Miller, Chicago, was among the speakers at the meeting of the Tri-County Medical Society (Henry, Knox and Warren), November 16; his subject was treatment of migraine.

Dr. David L. Bley, Staunton, announced his retirement from practice at a dinner, November

14, in honor of his eightieth birthday, newspapers reported. He has practiced medicine in Staunton for fifty-eight years.

The Chicago Laryngological and Otological Society was addressed, December 4, by Drs. Henry C. Sweany on "Pathogenesis and Diagnosis of Bronchogenic Carcinoma" and Francis L. Lederer on "Pathogenesis and End Results of Sinus Thrombosis."

Dr. William E. Kendall has been appointed chief medical officer of the Edward Hines, Jr., Hospital, Hines, succeeding Dr. William G. Cassels, who has gone to Washington, D. C., to serve as a member of the board of appeals in the Veterans' Administration.

Dr. John Philip Sandblom, Orebro, Sweden, among others, spoke at a meeting of the Chicago Society of Internal Medicine, December 18, on "Physiology of the Human Gallbladder Studied in Connection with Blood Transfusion and After Stomach Operations."

Speakers before the Chicago Surgical Society, December 1, included Drs. Alfred W. Adson and Winchell McK. Craig, Rochester, Minn., on "Diagnosis and Surgical Treatment of Spinal Cord Tumors" and "Surgery of the Sympathetic Nervous System," respectively.

Dr. E. J. Berkheiser addressed the Peoria Medical Society Dec. 19th on "Fractures of the Ankle Joint."

Speakers before the Chicago Gynecological Society, December 15, were Drs. George T. Palmer, Springfield, on "Tuberculosis in Its Relation to Pregnancy," and Irving F. Stein, "Oxygen Pneumoperitoneum in the Diagnosis and Treatment of Tuberculous Salpingitis."

Speakers before the Chicago Pathological Society, December 11, included Drs. Theodore E. Walsh and William E. Adams on "Observations on the Cytology of Nasal Polyps" and "Vascular Changes in Chronic Experimental Atelectasis of the Lungs," respectively.

Dr. Dean Lewis, Baltimore, President, American Medical Association, gave an address, December 19, in Thorne Hall, Northwestern University Medical School, under the auspices of Pi Kappa Epsilon Fraternity. The subject will be "Tumors of the Sympathetic Nervous System and Their Clinical Syndromes."

At a meeting of the La Salle County Medical Society in La Salle, November 23, the speakers



were Drs. John T. Murphy, Toledo, Ohio, and Vincent J. O'Connor, Chicago on "Cancer of the Ovary" and "Recent Advances in the Field of Genito-Urinary Surgery," respectively.

Plinn F. Morse of Detroit has been invited to address the Sangamon County Medical Society in Springfield on February 1. His subject will be "Differential Diagnosis of Enlargements of the Spleen."

Dr. Jesse R. Gerstley addressed the Illinois Division of The American Association of Hospital Social Workers on the evening of December 11, 1933. His subject was Chorea.

Miss Jean McArthur, Secretary of the Educational Committee, addressed the Senior Class of the George Williams College, December 22.

The Educational Committee has offered to arrange a program on cancer, including a lecture and a showing of the Canti film, for the smaller colleges of the State. Replies have been received from six college presidents requesting such programs early in 1934.

---

### News Notes

---

—Speakers before a joint meeting of the Chicago Roentgen Society and Chicago Orthopedic Club, December 14, included Drs. Julius Brams on "Congenital Absence of the Femur" and Charles N. Pease, "Injuries to the Intervertebral Disk and Vertebra Following Lumbar Puncture."

—Forty staff members of the University of Illinois College of Medicine, Chicago, visited the Urbana campus, November 17, and were addressed, among others, by George L. Clark, Ph. D., on researches of medical interest from the x-ray laboratory; Elmer Roberts, Ph. D., genetic studies on inheritance of resistance to bacterial infection, and Frederic R. Steggerda, Ph. D., absorption and excretion in the colon.

—The 1933 DuPage Co. Medical Society Golf Tournament was won by H. F. Langhorst, Elmhurst, Ill. I. F. Glasener of Lombard was runner-up.

—The Elmhurst Hospital Staff Tournament was won by E. F. Worsley of Downers Grove.

—At the first meeting of the state board of public health advisers, December 4, called by the state health commissioner, three committees were appointed to work out details and recommend

practicable programs for dealing with heart disease, amebic dysentery and trachoma. It was recommended at this meeting that the state department of health discontinue its treatment of patients with trachoma and restrict its activities in this connection to education in preventive practice. The promotion of prophylaxis against diphtheria and typhoid and the early adoption of a vigorous state-wide program for the control of heart disease were urged.

—At a meeting of the Peoria City Medical Society, November 21, Broda O. Barnes, Ph. D., Chicago, discussed "Studies on the Pituitary Especially Related to Diabetes."

—The McDonough County Medical Society was addressed in Macomb, November 14, by Drs. Frank J. Jirka and John J. McShane, Springfield, on epidemic encephalitis and scarlet fever control, respectively. Mr. S. V. Layson discussed milk sanitation. All represented the state health department.

—Beginning January 1, a course on ophthalmology will be carried on in the hospitals of Chicago for interns and residents in this specialty, it has been announced. Two hundred hours of instruction will be given by fifty-three instructors from the universities and hospitals in the city, the lectures to be divided evenly between the fundamental and the clinical branches. Practically all the lectures will be delivered at the Illinois Eye and Ear Infirmary.

—Dr. William J. Benner, Anna, was chosen president of the Southern Illinois Medical Association at its fifty-ninth annual meeting in Centralia, November 3. Dr. Ben Fox, West Frankfort, was named secretary, and Mount Vernon designated as the place for the next annual meeting. Speakers included Drs. Vilray P. Blair and Harry S. Crossen, St. Louis; Walter C. Alvarez, Rochester; George T. Palmer, Springfield; Andy Hall, Mount Vernon; William H. Smith, Benton, and Philip H. Kreuscher, Chicago.

—Dr. Anton Elschnig, professor and head of the department, German University Eye Clinic, Prague, Czechoslovakia, will conduct a course on intracapsular extraction of cataract, February 27, under the auspices of the Chicago Ophthalmological Society. An illustrated lecture early in the afternoon will be followed by operations on patients before groups of not more than ten

registrants. The registration fee is \$10. Professor Elschmig will address the society, February 26, on "Extraction of the Lens in Myopia." Further information may be had from Dr. Theodore M. Shapira, 58 East Washington Street.

## Deaths

ALEXIS B. BARKER, Peoria, Ill.; Cincinnati College of Medicine and Surgery, 1892; member of Illinois State Medical Society; aged 58; died, September 10, of pulmonary tuberculosis.

DANIEL BREWER, Fairbury, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1876; Hahnemann Medical College and Hospital, Chicago, 1877; member of the Illinois State Medical Society, aged 90; died, November 1, as the result of a fall.

EDMUND CHRISTIE, Chicago; McGill University Faculty of Medicine, Montreal, Quebec, Canada, 1882; aged 72, died, September 8, in the hospital of St. Anthony de Padua, of injuries received in a fall.

JOHN FRANCIS CORBIN, Galesburg, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1898; aged 63; died, December 1, of bronchitis.

FRED SARGEANT CROCKER, Chicago; Rush Medical College, Chicago, 1897; aged 63; died, November 30, of cerebral hemorrhage.

THEODORE W. CULP, Ava, Ill.; Misouri Medical College, St. Louis, 1888; aged 68; died, November 19, of myocarditis.

ADAM ELMER DILLER, Aurora, Ill.; Northwestern University Medical School, Chicago, 1907; a Fellow, A. M. A.; fellow of the American College of Surgeons; on the staff of St. Joseph Mercy Hospital; aged 54; died, November 30, in the Copley Hospital, of arteriosclerosis.

JAMES HENRY EDDY, Lakewood, Ill.; College of Physicians and Surgeons of Chicago, 1889; formerly a member of the school board; aged 70; died, November 9, in the Shelby County Memorial Hospital, Shelbyville, of injuries received in a fall.

SHEFTEL JACOB ELNER, Chicago; University of Illinois College of Medicine, Chicago, 1913; aged 63; died, November 24, of coronary occlusion and angina pectoris.

ROBERT A. FERGUSON, Bellair, Ill.; Indiana Medical College, Indianapolis, 1878; member of the Illinois State Medical Society; Civil War veteran; aged 90; died, October 21.

HORACE GIBSON, Sheldon, Ill.; Northwestern University Medical School, Chicago, 1892; member of the Illinois State Medical Society; for many years mayor of Sheldon and member of the school board; aged 76; died, November 15, of coronary and cerebral thrombosis.

JOHN FERDINAND GOLDEN, Chicago; Northwestern University Medical School, Chicago, 1903; a Fellow, A. M. A.; clinical professor of surgery, Loyola University School of Medicine; fellow of the American Col-

lege of Surgeons; clinical assistant in surgery, Rush Medical College, 1904-1906; instructor in surgery, 1906-1910, and associate in surgery, 1910-1920, at his alma mater; on the staff of the Mercy Hospital; aged 53; was killed, November 20, when he fell from an eighth story window.

FRANK WISE GOODELL, Effingham, Ill.; Butler University Medical Department, Indianapolis, 1880; past president of the Effingham County Medical Society; formerly county coroner; at one time on the staff of St. Anthony's Hospital; aged 74; died, November 21.

CHARLES BERRIEN HALL, Chicago; Hahnemann Medical College and Hospital, Chicago, 1886; aged 73; died, November 14, of chronic myocarditis.

CALVIN T. HOOD, Chicago; College of Physicians and Surgeons of Chicago, 1885; member of the Illinois State Medical Society; on the staffs of the Cook County, Illinois Masonic and Garfield Park hospitals; aged 71; died, November 25, at Rochester, Minn., of heart disease, following an operation for goiter.

ELMORE W. LE ROY, Chicago; Hahnemann Medical College of Philadelphia, 1883; a Fellow, A. M. A.; aged 73; died, November 26, in Gary, Ind., of cerebral hemorrhage.

ULYSSES GRANT MASON, Chicago; Meharry Medical College, Nashville, Tenn., 1895; aged 60; died, October 5, of coronary occlusion.

EDWARD ENGLETON MOORE, Wilmette, Ill.; Dartmouth Medical School, Hanover, N. H., 1884; aged 77; died, November 1, in the Kankakee (Ill.) State Hospital, of senile dementia and chronic myocarditis.

FRANKLIN J. OSHAY, Ladd, Ill.; Rush Medical College, Chicago, 1889; aged 71; died, September 26, in the East Moline State Hospital, Moline, of chronic nephritis and myocarditis.

CHARLES M. OUGHTON, Evanston, Ill.; Rush Medical College, 1884; a practitioner in Hyde Park more than 40 years; aged 71; died, December 8, of chronic myocarditis.

GEORGE HERBERT SMALL, Bloomington, Ill.; Hahnemann Medical College and Hospital, Chicago, 1903; aged 57; died, October 29, of uremia.

KARL FORBES SNYDER, Freeport, Ill.; Northwestern University Medical School, Chicago, 1902; a Fellow, A. M. A.; fellow of the American College of Surgeons; on the staffs of the Evangelical Deaconess, St. Francis and Freeport Methodist hospitals; aged 57; died, November 28, of a self-inflicted bullet wound.

CHARLES ELMER SPRING, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1893; aged 63; died, November 9, in the Billings Memorial Hospital, of a tumor of the prostate.

CLEMENT O. SULLIVAN, Monee, Ill.; Chicago College of Medicine and Surgery, 1912; aged 47; died, October 26, of an overdose of morphine, presumably self administered.

CHARLES L. VAN DOREN, Urbana, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1881; aged 76; died, October 27.

ELMER THOMAS WHITE, Chicago; Homoeopathic Hospital College, Cleveland, 1883; aged 71; died, December 2, of chronic myocarditis.



# RELIEVES COUGH ALLEVIATES DISTRESS



## THIATIC AND CODEINE (Merrell)

Provides a simple but efficient cough sedative. Note these advantages—

### EFFECTIVE

Composed of two clinically tried and proven drugs:

a—Potassium Guaiacol Sulphonate.

b—Codeine Phosphate.

### PROMPT

Prompt expectorant action—quick and efficient sedative action.

### PALATABLE

Special syrup base.

Potassium Guaiacol Sulphonate, most tasteless form of guaiacol.

### SAFE

Potassium Guaiacol Sulphonate, less toxic than guaiacol and better tolerated.

Codeine Phosphate, least habit-forming of opiates, less depressing on respiratory center and less constipating than morphine.

*Physician's sample on request.*

# NOW YOU CAN PUSH SALICYLATES

In order to secure complete salicylization—massive dosage without gastric upset—the combination of natural sodium, magnesium and calcium salicylates in conjunction with the alkalis found in ALYCIN has been found practical.

An average level teaspoonful of ALYCIN approximates 10 grains of salicylates and 20 grains of alkalis, in a balanced formula. The pleasant flavor, high tolerance and convenience of ALYCIN are appreciated by the patient.

*Write for physician's sample and complete schedule of dosage.*



**THE WM. S. MERRELL COMPANY**  
CINCINNATI, U. S. A.



**LISTER'S**

CASEIN PALMNUIT DIETETIC

**FLOUR****No  
Starch***prescribed in*→ **Diabetes** ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Lister's Flour. Recipes are easy to follow and Lister's Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a suitable environment

## The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey

ASSISTANT TO MEDICAL WRITERS—Research, Abstracting, Translating (all European languages). Papers prepared. Personal, individualized work. Ten years' experience in medical literature, with leading physicians and on staffs of medical journals of highest standing. Florence Annan Carpenter, 413 St. James Pl., Chicago, Ill. Tel. Lincoln 5807.

### FOR SALE:

Large and Lucrative surgical and general medical practice. Sale account of death. Established 25 years. Fully equipped, extensive practice over several Counties, Town of 23,000 population. Beautiful offices, located in Large Modern Bank Building. Rent reasonable. Wonderful opening for highclass Experienced Surgeon with some funds.

Mrs. Karl F. Snyder, Freeport, Illinois.

### GAINING WEIGHT

There is vast difference between "slender" and being "thin." The former state is desirable, the latter is not—because everyone wants the marks of health. Well-rounded contours, clear skin and shining eyes are indicative of a well regulated body.

An underweight condition is not as serious in an adult as in a growing child, but the ideal condition for both is to be neither too fat nor too thin.



THEY ARE PACKAGED IN BOTTLES OF THIRTY FIVE, A CONVENIENT NUMBER FOR THE PHYSICIAN'S PRESCRIPTION, OBVIATING REHANDLING AND EXPOSURE

THE FINISHED PILLS ARE PHYSIOLOGICALLY ASSAYED TO FINALLY CERTIFY THEIR STANDARDIZATION

THE POWDERED LEAF IS TESTED PHYSIOLOGICALLY AND CONVERTED INTO PILL FORM (1½ GRAINS) ON AN AUTOMATIC MACHINE, REDUCING EXPOSURE TO THE MINIMUM

A CAREFULLY SELECTED, BOTANICALLY IDENTIFIED LEAF, POWDERED IN OUR OWN MILL, GIVING ASSURANCE OF RELIABILITY...

THE FOUNDATION UPON WHICH THEY ARE BUILT  
AT THE LABORATORIES OF  
**DAVIES, ROSE & CO., LTD.**  
BOSTON, MASS.

# ST. JOSEPH'S HEALTH RESORT

*Located on the  
beautiful Fox River*

## WEDRON • ILLINOIS

*"The"  
Illinois Baden*

*73 Miles from Chicago*



Thoroughly equipped Health Resort. Every modern convenience. — Hydro-Therapy — Electro-Therapy — Massage — Dietetics. Treatments for Rheumatism, High Blood Pressure — Neuritis — Kidney Troubles — Liver Ailments — Diabetes — Nervousness.

Ideal for convalescents—and vacationists—home like environments—excellent cuisine—registered nurses—moderate rates—40 acres of ground.

Conducted by Sisters, Mission Workers of the Sacred Heart.

*Write or phone for full  
information*

TELEPHONE: OTTAWA 9129

### CONSULTING STAFF

FREDERICK TICE, Chicago—Medical  
PHILIP H. KREUSCHER, Chicago—Surgical  
FRANCIS J. GERTY, Chicago—Neuropsychiatrist  
JAMES H. HUTTON, Chicago—Endocrinology

### ATTENDING STAFF

GEORGE KLUMPNER, Ottawa—Medical  
JOHN H. EDGECOMB, Ottawa—Surgical  
W. P. FREAD, Ottawa—Eye, Ear, Nose & Throat  
F. L. HOXEY, Ottawa—Dental

# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director ; Alberto L. de Guevara, M. D., Asso. Medical Director

Naperville, Illinois

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis.

Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

# The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago



## Kenilworth Sanitarium

KENILWORTH, ILLINOIS

Northern Suburb of Chicago

Founded by Sanger Brown, M. D. 1905

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M.D.      CHRISTY BROWN  
Assistant Physician      Business Manager  
PETER BASOE, M.D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

For Mild Mental and Nervous Diseases

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

Licensed by the Illinois State Department of Public Welfare.

Member of the Central Neuropsychiatric Hospital Association.

Rockford, Illinois

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director  
FLOYD W. APLIN, M. D.      L. H. PRINCE, M. D.

Waukesha, Wisconsin

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

For the Treatment of Nervous and Mental Disorders

DR. FRANK P. NORBURY, Medical Director  
DR. ALBERT H. DOLLEA, Superintendent  
DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK

Address  
Communications

THE NORBURY SANATORIUM, Jacksonville, Illinois



# Cut Out This Page and Post Conspicuously

## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 24

### BANKS

State Bank and Trust Company, Evanston..... 24

### FOODS

Biovegetin Products, Inc., 500 N. Dearborn St., Chicago.... 10  
Borden Co., New York City..... ..  
California Fruit Growers Exchange..... 30  
R. B. Davis Co., Hoboken, N. J..... ..  
Lister Bros., 41 E. 42nd St., New York City..... 20  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass..... 6  
S. M. A. Corp., 4614 Prospect Ave., Cleveland, Ohio..... 14  
The Wander Company, 180 N. Michigan Ave., Chicago.... ..

### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 13

### HOTELS

Arlington Hotel, Hot Springs National Park, Ark..... 29

### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 31  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago..... 24

### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill..... ..  
Armour & Co., Chicago..... ..  
Arlington Chemical Co., Yonkers, N. Y..... ..  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford..... 8  
Ciba Company, Cedar & Washington Sts., New York City.. 35  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago.... 29  
Davies Rose & Co., Boston, Mass..... 20  
Denver Chemical Co..... 32  
Farastan Company, 134 S. 11th St., Philadelphia, Pa..... ..

Gallia Laboratories, 450 7th Ave., New York City..... 26  
Harrower Laboratory, 160 N. La Salle St., Chicago..... 25  
Hoffman-La Roche, Inc., Nutley, N. J..... ..  
Hydrosal Co., Cincinnati..... ..  
Hynson, Westcott & Dunning, Charles and Chase Sts., Baltimore .. 8  
Lilly, Eli & Co., Indianapolis, Ind..... 18  
Merck and Co., Rahway, N. J..... 6  
Wm. S. Merrell Co., Cincinnati..... 19  
Metz Laboratories, Inc., New York..... ..  
H. K. Mulford Co., Philadelphia..... ..  
Norwegian Medicinal Cod Liver Oil..... 34  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 24  
Reed & Carnrick, Jersey City, N. J..... 16  
Schering and Glatz, Inc., New York City..... 12  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit..... 17  
United Drug Co., Boston and St. Louis..... ..  
Wm. R. Warner & Co., 113 W. 18th St., New York City.. 15, 33  
Winthrop Chemical Co., 117 Judson St., New York City... 7  
John Wyeth & Bro., Inc., Philadelphia..... 4

### SANATORIA AND SANITARIA

Cincinnati Sanitarium, Cincinnati, Ohio..... 31  
Edward Sanatorium, Naperville, Ill..... 21  
Kenilworth Sanitarium, Kenilworth, Ill..... 22  
Michell Farm Sanitarium, Peoria, Ill..... 36  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 22  
North Shore Health Resort, Winnetka, Ill..... 36  
Oconomowoc Health Resort, Oconomowoc, Wis..... 36  
Phoenix Chamber of Commerce, Phoenix, Ariz..... 31  
St. Joseph's Health Resort, Wedron, Ill..... 21  
Tucson Sunshine-Climate Club..... 35  
Waukesha Springs Sanitarium, Waukesha, Wis..... 22  
Wilgus Sanitarium, Rockford, Ill..... 22

### SCHOOLS

Bancroft School, Haddonfield, N. J..... 20

### SURGICAL INSTRUMENTS AND DRESSINGS

Sharp and Smith, 65 E. Lake St., Chicago..... ..

# FOR YOUR BANKING

## State Bank and Trust Company

Orrington at Davis

Evanston, Illinois

MEMBER FEDERAL RESERVE SYSTEM

### THERAPEUTIC RESPONSE

Whenever a cholagogue is needed to stimulate the flow of bile. . . .

## TAUROCOL (TOROCOL) TABLETS

assures the maximum of therapeutic response.

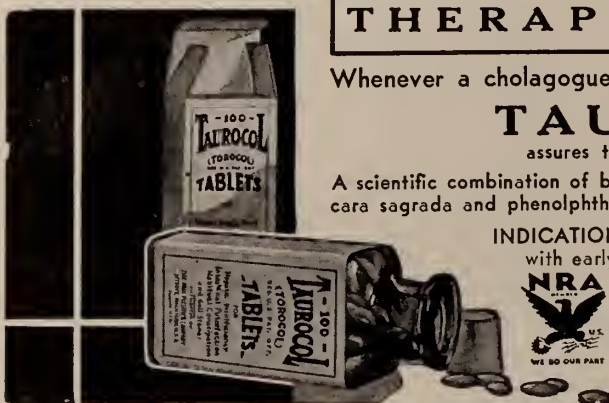
A scientific combination of bile salts (sodium glycocholate and taurocholate) with cascara sagrada and phenolphthalein.

INDICATIONS: Hepatic insufficiency, either functional or in association with early cirrhosis; catarrhal and other forms of jaundice, provided the bile ducts are not completely obstructed; intestinal auto-intoxication.



THE PAUL PLESSNER CO.  
DETROIT, MICH.

VERA PERLES  
of Sandalwood  
Compound — another  
Plessner  
Product



IM1

### Cook County Graduate School of Medicine

(In affiliation with COOK COUNTY HOSPITAL)

#### ANNOUNCES CONTINUOUS COURSES

**MEDICINE**—General and Intensive Course, all branches. (Two weeks Intensive Course starting February 12, 1934. Attendance limited.)

**PEDIATRICS** — Informal Course — Four Weeks Intensive Course, starting May 7, 1934. Attendance limited.

**OBSTETRICS** — Informal Course — Two Weeks Intensive Course.

**GYNECOLOGY**—Three Months Course—Two Weeks Course—Special Course.

**FRACTURES AND TRAUMATIC SURGERY**—Informal Course—Ten Day Intensive Course, starting February 26, 1934. Attendance limited.

**ROENTGENOLOGY**—Special and Comprehensive Courses.

**CYSTOSCOPY**—Intensive Course. Attendance limited.

**UROLOGY**—General Course Two Months—Intensive Course Two Weeks.

**SURGERY**—General Course One, Two, Three and Six Months; Surgical Technique Two Weeks Intensive Course—Special Courses.

General, Intensive or Special Courses in Tuberculosis, Orthopaedic Surgery, Dermatology and Syphilis, Ophthalmology, Ear, Nose and Throat, Pathology, Neurology, Proctology, Electrocardiography, Topographical and Surgical Anatomy, Physical Therapy, Gastroenterology, Allergy.

Teaching Faculty—Attending Staff of Cook County Hospital

Address: Registrar, 427 South Honore Street, Chicago, Ill.

Trademark  
Registered

## STORM

Trademark  
Registered

### Binder and Abdominal Supporter



Gives perfect uplift. Is worn with comfort and satisfaction. Made of Cotton, Linen or Silk, Washable as underwear. Three distinct types, many variations of each.

#### The Picture Shows "Type N"

Storm belts adaptable to all conditions, Ptosis, Hernia, Pregnancy, Obesity, Sacro-Iliac Relaxations, High and Low Operations, etc.

Ask for Literature

**KATHERINE L. STORM, M.D.**

Originator, Owner and Maker

1701 Diamond St.

Philadelphia

# R ENDOTHYRIN

Not Just "Thyroid Extract"

## Endothylin Is

**POTENT**—Three times U.S.P. Thyroid standard strength. Contains 0.6 per cent. organic iodine.

**ECONOMICAL**—One-third the former dosage does the same work.

**DETOXICATED**—Practically all deleterious substances removed—is **virtually non-toxic**.

**CONVENIENT**—Divided tablet makes small doses easy.

**INEXPENSIVE**—Bottles of fifty 1/2-gr. tablets cost your patients only 90c.

Prescribe Endothylin

The NEW, TRIPLE-U.S.P.-STRENGTH Thyroid

---

The HARROWER LABORATORY, Inc.

GLENDAL, CALIF. NEW YORK, N. Y. CHICAGO, ILL. DALLAS, TEX. PORTLAND, ORE.  
920 E. Broadway 9 Park Place 160 N. La Salle St. 833 Allen Bldg. 316 Pittock Block



# PROLONGED IODINE MEDICATION IN CHRONIC CASES

*With the Danger of Iodism  
Reduced to a Negligible Factor*

How often you hesitate to use iodine therapy because of the danger of iodism!

Some patients seem to have a real idiosyncrasy for the iodides and regularly exhibit untoward phenomena, even with small doses. In other cases the disturbances are negligible. But in general, the severity of the symptoms of iodism is directly proportional to the amount of iodine retained in the blood; and this in turn depends upon the quantity administered. From this it is apparent that iodism may best be prevented by administering iodine in the form in which it is best utilized and longest retained in the body's cells, so that the dose may be reduced to the absolute minimum compatible with therapeutic effect.



## RIODINE (Astier) Organic Assimilable Iodine



With RIODINE (Astier), which is a 66% solution in oil of an iodized glyceric ether of ricinoleic acid containing about 17% of iodine, the iodine content is well utilized and slowly eliminated from the body. The average retention time of iodine in the body when RIODINE (Astier) is used is about 72 hours, or nearly double the retention time when using potassium iodide. *Hence only relatively infrequent and small doses are required.*

Riodine (Astier) meets all the indications for iodine where small doses of iodine only are required. It may therefore be applied to the treatment of a great variety of conditions. It possesses marked advantages over the inorganic iodine preparations where the continuous action of small amounts of iodine is desired, such as *Cardio-renal disturbances, Arteriosclerosis, Bronchial Asthma, Chronic Bronchitis, Pulmonary Emphysema, Chronic Rheumatoid Arthri-*

*tis, Latent Syphilis, Lead Poisoning, Hypothyroidism, Simple Goiter, Obesity.*

You will be pleased with the consistently prompt and satisfactory results obtained with Riodine (Astier).

Also . . .

### DEPENDABLE and NON-IRRITATING SANDALWOOD OIL THERAPY With ARHEOL (Astier)

With Arheol (Astier), which is the active principle of sandalwood oil freed of therapeutically inert but irritating substances found in the crude oil, the uncertainty and unreliability of crude sandalwood oil therapy is eliminated. Use Arheol for *Gonorrhea, Cystitis, Vesical Catarrh, Prostatitis, Posterior Urethritis, Pyelitis, Pyelonephritis.*

*Write for Information and Sample of either Riodine or Arheol or Both*

Use Your Prescription Blank

**GALLIA LABORATORIES, Inc.** 450 Seventh Ave.  
NEW YORK

## ILLINOIS PERIODIC PHYSICAL EXAMINATION RECORD\*

Case No. ....

Name ..... Age ..... Height ..... Weight ..... usual .....  
 present .....  
 normal .....

Temp. (3 min.) ..... Pulse Rate. { Seated (before exercise) .....  
 { Standing (before exercise) .....  
 { 60 sec. after exercise (sufficient to increase pulse to 110) .....

Bl. Pres.: Sitting { Sys. .... Lying { Sys. ....  
 { Dias. .... { Dias. ....

Hearing { R. .... Vision { R. ....  
 { L. .... { L. ....

Urine: Color ..... Reaction ..... Sp. Gr. .... Alb. .... Sugar .....  
 Microscopic .....

## 1. (Standing)

- (1) Posture: erect ..... stooped ..... Lateral curvature .....
- (2) Superficial glands ..... cervical ..... axillary ..... inguinal ..... epitrochlear .....
- (3) Abdomen: flat ..... Pendulus .....
- (4) Arms ..... defects .....
- (5) Legs ..... big veins ..... scars .....
- (6) Feet: flat ..... painful ..... deformed .....
- (7) Skin ..... Hands .....
- (8) Nutrition ..... Hernial rings .....
- (9) Chest: expir. .... inspir. .... Romberg .....

## 2. (Sitting)

- (1) Scalp ..... Patellar reflexes .....
- (2) Eye reflexes ..... to light ..... to distance .....
- (3) Nose: conformation ..... air passages free ..... obstructed ..... discharge .....
- (4) Teeth: caries ..... devitalized ..... crowned .....
- (5) Gums: healthy ..... retracted ..... inflamed .....
- (6) Tongue: clean ..... coated ..... moist ..... dry .....
- (7) Pharynx: ulcers ..... scars ..... tonsils .....
- (8) Ears: conformation ..... discharge .....
- (9) Heart: locate apex (measure from mid-line—state interspaces) ..... character of sounds .....
- (10) Lungs: abnormal findings .....

## 3. (Lying)

- (1) Abdomen: palpation ..... tender ..... tumors .....
- (2) Liver: percussion ..... tender ..... palpable .....
- (3) Spleen: percussion ..... tender ..... palpable .....
- (4) Kidneys: palpable ..... tender .....
- (5) Rectum: inspection ..... digital findings .....
- (6) Male Genitalia .....
- (7) Female Genitalia and pelvis .....

4. Summary: defects of function and structure and errors of habit .....
5. Advice given to the patient .....

\*Prepared by the Illinois State Medical Society.

Copies of this physical examination record may be secured from Doctor Harold M. Camp at Monmouth, Illinois, or the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

## HISTORY

(This side to be filled in by the person to be examined)

1. Name ..... Country of birth..... Date of birth.....
2. Address ..... Race .....
3. Single, married, widowed, divorced.....
4. Occupation .....
5. How often have you changed your work?..... Why? .....
6. Is your work dangerous or unhealthy?.....
7. Is it indoors or out?.....
8. Is it light where you work?..... Dark?..... Dusty? ..... Smelly?..... Noisy?..... Crowded?.....
9. At work are you usually seated, standing, or walking? .....
10. How many hours a day do you work?..... How many days a week?.....
11. Have you a room and bed to yourself?..... With window open?.....
12. What are your hours of sleep?..... Is your sleep restful?..... By what is it disturbed? .....
13. Where do you eat your meals?.....
14. How much time do you take for each meal?.....
15. Of what foods are you especially fond?.....
16. How much do you drink daily of:
 

Water .....	Tea .....	Soft drinks .....
Milk .....	Coffee.....	Alcoholic drinks .....
17. Do you eat candy?.....
18. Do you have a bowel movement daily without the use of drugs?..... What laxative do you use?..... How often? ..... Do you have pain or bleeding with bowel movement?..... How often? .....
19. Have your menstrual periods been regular?.....
20. Have they interfered with your usual occupations? .....
21. Have pregnancies and confinements been free from accidents? .....
22. How often do you bathe?.....
23. What regular exercises do you take in addition to your work?.....
24. Do you share in church, social, political, club, or trade associations?.....
25. What are your pleasures or recreations?.....
26. Have you had any of the following diseases and at what ages?
 

Tuberculosis .....	Scarlet fever .....	Tonsilitis .....
Malaria .....	Diphtheria.....	Frequent colds.....
Rheumatism .....	Typhoid fever .....	Syphilis or gonorrhea.....
27. Do you have dyspepsia?.....
28. Do you have headaches?.....
29. Are you short of breath on going up stairs?.....
30. Do you catch cold easily and often?.....
31. Are you subject to sore throats?.....
32. Have you been vaccinated against small pox, typhoid fever, diphtheria?..... When? .....
33. Have you had any accidents, broken bones or surgical operations? .....
34. How often do you consult you dentist?.....
35. Are you as well at present as formerly?..... If not, why?.....
36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....

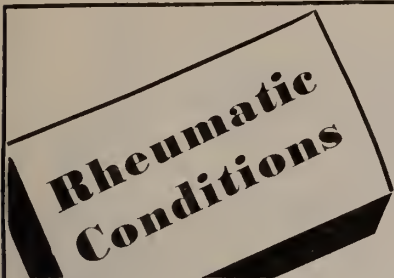
.....

.....

.....

.....





ACUTE OR CHRONIC—yield to the application of a Methenamine combination with Lithium and Sodium Benzoate in a standardized fluid of couch grass and corn silk. Those are the components of

*Non-Toxic* ~ *Non-Alcoholic*

# UROLITHIA

The value of Hexamethylenamine as an agent for liberating formaldehyde has long been recognized by the medical profession. The highly irritating qualities of free formaldehyde are avoided by using Urolithia.

Urolithia is a scientifically compounded formula of Hexamethylenamine (Methenamine) in combination with Lithium and Sodium Benzoate in a standardized fluid of Couch Grass. (Triticum) and Corn Silk (Zea).

AS MUCH AS 20 GRAINS of Hexamethylenamine can be administered four or five times a day to patients without toxic effects through the use of Urolithia.

**COBBE PHARMACEUTICAL CO.**

221 N. LINCOLN STREET,

CHICAGO, ILL.

COBBE PHARMACEUTICAL CO.  
221 N. LINCOLN ST. CHICAGO, ILL.

Send free Urolithia sample and literature.

Dr. ....

1M-1-34

# ARLINGTON

# HOTEL & BATHS



*... You'll forget  
the clock and calendar*

As you challenge Par when your ball rolls straight for the cup on velvet Grass Greens . . . or you view this scenic wonderland from the back of a gaited horse. Comfort, too, is here in your home-like quarters at the hospitable Arlington Hotel with its matchless cuisine and service . . . and better still, at tariffs which meet you more than half way.

*For booklet and reservations address*

**W. E. CHESTER, President & Gen. Mgr.**

**ARLINGTON HOTEL AND BATHS**

*One of the Finest Resort Hotels in America*

## HOT SPRINGS NATIONAL PARK • ARKANSAS

### *Results of 3½-Year Clinical Study of 440 Children*

	FIRST YEAR Standard Diet	SECOND YEAR Added Citrus Fruit	THIRD YEAR Standard Diet
GINGIVITIS, Incidence	74.9%	12.4%	60.3%
DENTAL CARIES, Incidence	78.0%	33.7%	83.4%

# Dental Disorders Checked by High-Citrus-Fruit Diet

*Complete Details of Mooseheart Work Made  
Available to Dentists, Physicians and  
Nutritionists in New Monograph  
—Illustrated in Direct Color*

THE average American diet appears to be deficient in certain substances requisite to dental health. Gingivitis and dental caries can occur in the majority of a large group of children who are receiving a quart of milk, one and one-half ounces of butter, a pound of vegetables, half a pound of fruit and nearly one egg a day.

The addition of a pint of fresh orange juice and the juice of one lemon leads to a disappearance of most of the gingivitis and about 50% of the dental caries.

#### *Liberal Amount Needed*

When the intake is reduced to three ounces a day for one year, these ailments tend to reappear in their former intensity.

These conclusions are announced in "Diet and Dental Health," a monograph reporting a 3½-year study made at Mooseheart by The Sprague Memorial Institute at the University of Chicago.

Continuance of preliminary work on an amplified scale was made possible by the California Fruit Growers Exchange in providing fruit and additional funds. The Exchange also made available to the University of Chicago Press color plates for the

monograph, permitting the Special Advance (\$1) Edition to contain the identical illustrations used in the regular \$4 edition.

*Physicians: Send For Book*

Physicians and Nutritionists, as well as Dentists, will find much of the clinical material in "Diet and Dental Health" directed to them. Tables give precise data, such as serum calcium, oral bacteriology, etc., on the children. This permits correlations for various purposes. The Mooseheart research is easily the most comprehensive clinical nutritional study of children on record. As only a limited number of subscriptions for the monograph can be made available at \$1, an early return of the coupon and remittance is urged.

Copr., 1934. California Fruit Growers Exchange

## 300 PAGES \$1.00

48 pages of illustration chiefly of actual color photographs. Pre-publication offer: Special Advance Edition durably bound, \$1.00.



UNIVERSITY OF CHICAGO PRESS, Div. 1801-M  
5750 Ellis Avenue, Chicago, Illinois

Enter my order for "Diet and Dental Health,"  
at the pre-publication price of ONE DOLLAR.  
I enclose ☐ money order, ☐ check, ☐ currency.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



**California Fruit Growers Exchange**  
**Sunkist Oranges • Lemons • Grapefruit**





### The Cincinnati Sanitarium

Established More Than Fifty Years Ago

#### A PRIVATE HOSPITAL FOR NERVOUS AND MENTAL DISEASES

Secluded but easily accessible. Constant medical supervision. Registered charge nurses. Complete laboratory and hydrotherapy. Dental department. Occupational Therapy. Ample classification facilities.

Charles Kiely, M. D., Emerson A. North, M. D., Visiting Consultants.  
D. A. Johnston, M. D., Resident Medical Director

#### REST COTTAGE

This psychoneurotic unit is a complete and separate hospital, elaborate in furnishings and fixtures.

For terms apply to  
The Cincinnati Sanitarium  
College Hill, Cincinnati, Ohio

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
**CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL**  
231 West Washington Street, Chicago, Illinois


### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six  
X-ray, Basal Metabolism, Electrocardiography and Physical Therapy

# A R I Z O N A

## Every Day an Outdoor Day

**84%**  
Sunshine



Reduced round-trip rates now in effect on the Rock Island-Southern Pacific and Santa Fe Lines.



Daily trans-continental plane service via Fair Weather Route of the American Airways, Inc.

Climatic conditions in Phoenix, and the surrounding towns of Tempe, Mesa, Chandler, Wickenburg, Glendale and Buckeye, are ideal. Here, a brilliant sun shines 84% of all the possible daylight hours; winters are moderate; snow, sleet and slush are unknown in this 1100 foot altitude; the air is clean, dry and invigorating.

This semi-tropical area offers unlimited opportunities to rest quietly under the palms in the patios, as well as many recreational diversions. We believe you will agree that your patients have an excellent chance to regain their health in this dry, warm, sunny "Land of Out-of-doors."

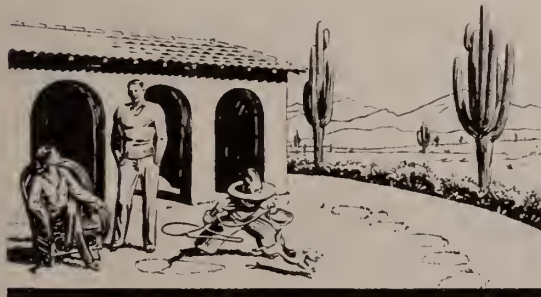
### Climatological Data

U. S. Weather Bureau Statistics  
Covering a period of 36 years

Mean Yearly Average

Temperature	69.8°
Rainfall	7.81 inches
Relative Humidity	37.33%
Sunshine	84%
Altitude	1,100 feet

Send us the schedule of those persons you are sending to Phoenix. We will be glad to meet their train or plane and help them locate in comfortable accommodations to fit their budget.



## PHOENIX

CHAMBER OF COMMERCE  
119-C La Ciudad Del Sol

(The City of the Sun)

Please send me free descriptive literature and further information about the climate.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

### MISSED THE TRACK MEET

Teacher (to wayward Johnny): "Tell me what you know about the Caucasian race, Johnny."

Johnny: "I wasn't there; I went to the football game instead."

### FOOTBALL PRICES

Yearling: "What made you decide to come to West Point?"

Plebe: "Sir, my father is poor and couldn't afford to send me to the football games."—*West Point Pointer.*





*As  
Winter  
proceeds*

... the physician is called  
upon to contend with  
innumerable cases of

## ACUTE RESPIRATORY DISEASES

In the management of

**SIMPLE COLD • INFLUENZA • BRONCHITIS**

and in chest conditions, as pneumonia, Antiphlogistine is an effective and suitable method of treatment.

The physiological action of Antiphlogistine on inflammatory areas is that of hyperaemia, which acts as a decongestant, an analgesic and corrective agent, promoting elimination of the toxic products and an improvement in the clinical picture.

# ANTIPHLOGISTINE

*Sample and literature on request*

THE DENVER CHEMICAL MANUFACTURING COMPANY  
163 Varick Street, New York



Not until you have used Alka-Zane will you know how effective alkaline treatment can be.

Alka-Zane contains the four bases, sodium, potassium, calcium and magnesium, of which the alkali reserve of the body is essentially composed. These are present in Alka-Zane in the form of carbonates, citrates and phosphates. No tartrates, lactates or sulphates, and no sodium chloride.

A granular effervescent salt, that makes a zestful, palatable, refreshing drink, such is Alka-Zane. It is supplied in 1½ and 4-ounce bottles. A teaspoonful in a glass of water is the dose.

*Trial supply gladly sent to physicians.*



## Patients prefer Norwegian Medicinal Cod Liver Oil

because of its great purity and because its taste is much less pronounced than that of similar oils.

The latest scientific investigations made by Professor Poulsson at the Vitamin Institute of Oslo, show that the vitamin D content of Norwegian medicinal cod liver oil is up to a hundred per cent. higher than that from other sources. That is why Norwegian medicinal cod liver oil is the most effective medicine against rickets.

Norwegian medicinal cod liver oil is also very rich in vitamin A, besides containing a substantial amount of iodine.

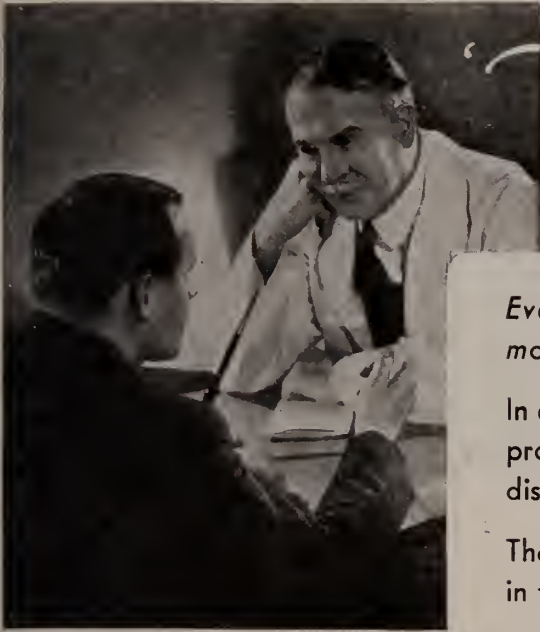
**Norwegian Medicinal Cod Liver Oil**  
world famous for its high quality.

Printed matter will be sent on application to: Reklamefondet for norsk medicintran, Post box 226, Bergen, Norway.

FABRITIUS, OSLO







# *It saved my life,* **DOCTOR—**

*Every physician in the country should know more about CORAMINE."*

In essence, if not verbatim, the statement to a prominent Cardiologist by a medical Editor, in discussing a paper on CORAMINE.

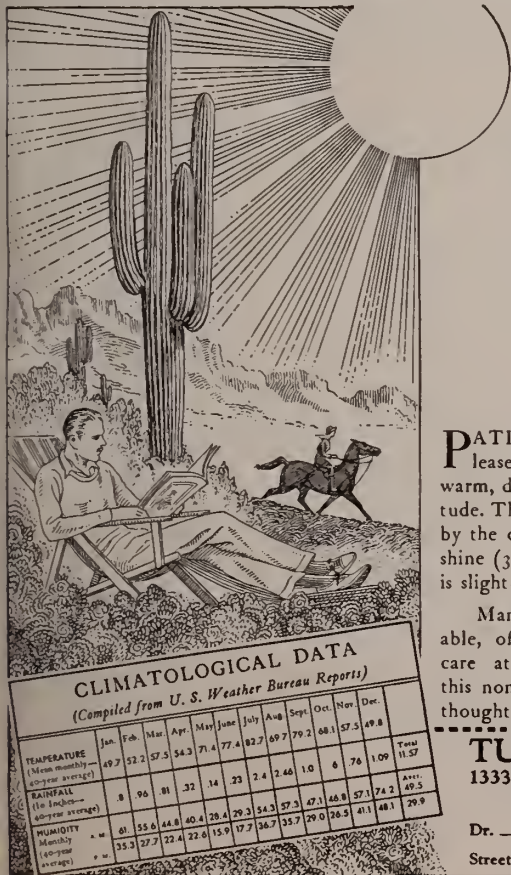
Thousands of similar remarks have been made in the United States and abroad.

For this reason alone, Doctor, you should familiarize yourself with the mode of administration and action of CORAMINE in circulatory and respiratory failure.

May we send you reprints and literature?



**CIBA COMPANY, INC., NEW YORK, N. Y.**



## *The Calendar says Winter* *but it's* **SUMMER** *in* **TUCSON**

*Here Convalescents bask in the constant warm, dry sunshine...*

**P**ATIENTS frequently find release from irritation in this warm, dry air and 2400-foot altitude. Their recovery is often aided by the constant, dependable sunshine (336 days a year). Rainfall is slight—fog unknown.

Many fine sanitoria are available, offering specialized expert care at reasonable rates. And this non-profit civic club renders thoughtful personal service to all

incoming patients without obligations of any kind whatsoever.

You need not fear for a patient's welfare, in Tucson! We invite every physician to write or telegraph inquiries of any kind—about our housing conditions, our splendid schools (including several private schools of highest rank) or our excellent class A University of Arizona. Mail the coupon below for booklets and data.

**TUCSON Sunshine-Climate Club ARIZONA**  
1333 Hold Pueblo Bldg.,

Please send me your literature for physicians.

Dr. \_\_\_\_\_  
Street \_\_\_\_\_ City \_\_\_\_\_

### CLIMATOLOGICAL DATA (Compiled from U. S. Weather Bureau Reports)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
TEMPERATURE (mean monthly— 40-year average)	49.7	52.2	57.3	64.3	71.4	77.4	82.7	89.7	79.2	68.1	57.3	49.8	
RAINFALL (in inches— 40-year average)	.8	.96	.81	.32	.14	.23	2.4	2.46	1.0	.6	.76	1.09	11.57
HUMIDITY Monthly (40-year average)	61	55.6	44.8	40.4	28.4	29.3	54.3	57.3	47.1	46.8	57.1	74.2	49.3
	35.2	27.7	22.4	22.6	15.9	17.7	36.7	35.7	29.0	26.5	41.1	48.1	29.9

# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN



Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

**Fireproof** building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

**ARTHUR W. ROGERS, M.D., Physician in Charge**  
**JAMES C. HASSALL, M.D., Medical Supt. OWEN C. CLARK, M.D., Asst. Physician**

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



**Dr. George W. Michell, Superintendent**  
**Dr. Helen Coyle, Medical Director**  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan  
**WINNETKA, ILLINOIS**  
16 Miles North of Chicago

**Thoroughly Equipped Sanitarium**  
**Hydrotherapy - Electrotherapy - Massage - Dietetics**  
**Occupational Therapy Department**

**Special facilities are offered for the care and treatment of nervous and chronic diseases.**

*Ideal for Convalescents*

**Write for Booklet or Phone WINNETKA 211**  
**Wm. R. Whitaker** **Wm. G. Stearns, M.D.**  
**Manager** **Medical Director**



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

Vol. LXV, NO. 2      OAK PARK, ILL., FEBRUARY, 1934      \$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for  
Titles) ..... 93

### ORIGINAL ARTICLES

Deep Neck Infection—Surgical Approach. *Hanby  
L. Ford, M. D., Champaign, Ill.*..... 117

Medical Economics. *R. R. Ferguson, M. D., Chi-  
cago* ..... 123

Classification of Heart Disease. *Nathan S. Davis,  
iii, M. D., Chicago*..... 131

Acute Infectious Myocarditis. *James G. Carr,  
M. D. and James A. Walsh, M. D., Chicago*.. 134

Coronary Artery Disease. *Don. C. Sutton, M. D.,  
Chicago* ..... 138

Auricular Fibrillation. *C. C. Mayer, M. D., Chi-  
cago* ..... 140

Present-Day Uses of Quinidine. *Lewis W. Wood-  
ruff, M. D., Joliet, Ill.*..... 144

Non-Surgical Chronic Abdominal Pain. *Don  
Deal, M. D., Springfield, Ill.*..... 149

Private Sanatoria and Rest Homes for Mental  
Cases in Illinois. *John M. Grimes, M. D., Chi-  
cago* ..... 154

Ophthalmoscopic Findings in Hypertension. *James  
E. Lebensohn, M. D., Chicago*..... 156

Surgical Treatment of Gastric and Duodenal  
Ulcer. *Harry M. Richter, M. D., Chicago*.... 159

Immunization in Control of Acute Contagious Dis-  
ease. *Hubert S. Houston, M. D., Springfield,  
Ill.*..... 161

(Continued on Page 8)

Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879.  
Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918.

## MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

### RESIDENT STAFF

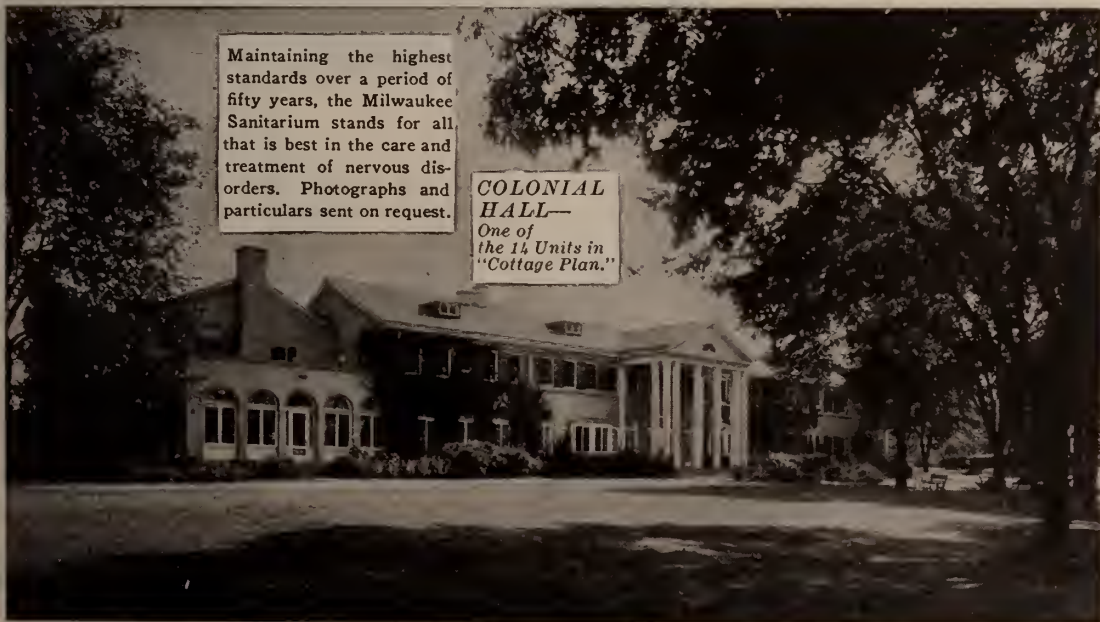
ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.

MERLE Q. HOWARD, M.D.  
CARROLL W. OSGOOD

ATTENDING STAFF  
H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

Maintaining the highest  
standards over a period of  
fifty years, the Milwaukee  
Sanitarium stands for all  
that is best in the care and  
treatment of nervous dis-  
orders. Photographs and  
particulars sent on request.

COLONIAL  
HALL—  
One of  
the 1½ Units in  
"Cottage Plan."



"The Advertising Pages have a Service Value for the READER that no truly Progressive Physician can afford to overlook."





# NO SUSCEPTIBLE PERSON NEED HAVE *Scarlet Fever*

THE effectiveness of Scarlet Fever Toxin in the prevention of Scarlet Fever is attested by its increased routine use in hospitals and institutions in most countries of the world. Scarlet Fever immunization has many definite advantages as a routine in institutions. It has been helpful in halting the development of epidemics.

All Squibb Scarlet Fever Products are made under license from the Scarlet Fever Committee, Incorporated. Potency is assured by a triple control. This control includes laboratory tests and clinical trials, approval of the National Institute of Health at Washington, D. C., and by the Scarlet Fever Committee, Incorporated.

Squibb Authorized Scarlet Fever Products include Scarlet Fever Toxin for Dick test and immunization,



and Squibb Scarlet Fever Antitoxin for temporary prophylaxis and treatment.

In addition to its line of Authorized Scarlet Fever Products the Squibb Laboratories also market a complete line of Council-Accepted Diphtheria Products; Tetanus and Erysipelas Antitoxins; and other biologicals.

*For literature write Professional Service Department, 745 Fifth Avenue, New York City*

---

**E·R·SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

---

# To reduce the Death Rate from Pneumonia



**A** STEP FORWARD in reducing the death rate from pneumonia has been found in concentrated and standardized Pneumococcus Antibody Globulin Type I Mulford, prepared according to the method of Felton.

The use of this serum has shown beneficial effect. Definite improvement usually appears within thirty hours after antibody administration and the average duration of illness is shorter than that of untreated patients. Best results are ob-

tained when administered early in the disease.

Therefore, its *concentration* has important therapeutic significance as tests show a protective value ten or more times that of the serum from which it was made. Its *standardization* means certainty in dosage and

uniformity of therapeutic expectation.

Serum sickness is minimized as the refining processes remove most of the serum proteins; the allergic type of reaction is fortunately rare.

Further information will be supplied on request.



MULFORD BIOLOGICAL LABORATORIES

## Sharp & Dohme

Philadelphia

Baltimore

Montreal

### Pneumococcus Antibody Globulin Type I Mulford



**S**CANTY, painful or irregular menstruation usually results in fixed, faulty physiological habits. Treatment is more successful if instituted early.

Take advantage of an endocrine product which represents the best thought of research and clinical medicine.

## HORMOTONE

BOTTLES OF 50 and 100 TABLETS

**G. W. Carnrick Co.** 20 Mt. Pleasant Ave.  
Newark, N. J.

# FOR HEMORRHOIDS WYANOIDS



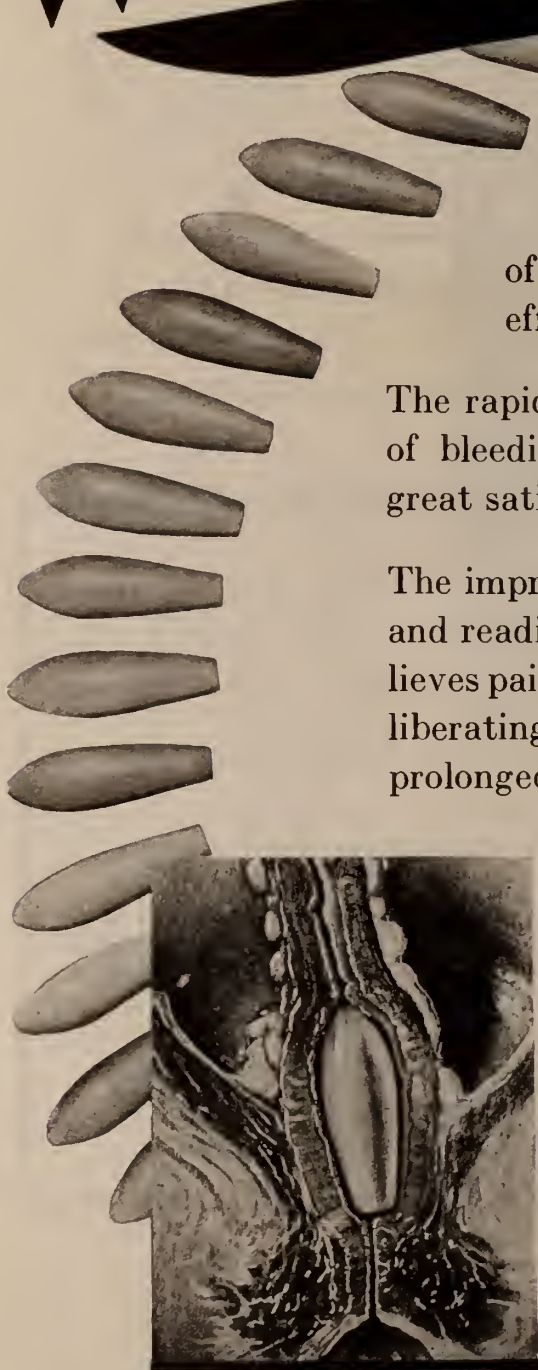
THE ready acceptance of WYANOIDS has been due to their effectiveness.

The rapid relief of hemorrhoidal pain, control of bleeding and promotion of healing gives great satisfaction to patients.

The improved torpedo shape is easily inserted and readily retained—the formula quickly relieves pain and bleeding—the base melts evenly, liberating the therapeutic ingredients over a prolonged period—the result being an efficient and safe hemorrhoidal suppository.

•  
WYANOIDS *are packed*  
*12 in a box.*  
•

**JOHN WYETH & BROTHER, Inc.**  
Philadelphia, Pa. and Walkerville, Ont.





From the diary of the original Samuel Pepys:

Feb. 21, 1665. And then my wife being busy in going with her woman to a hot-house to bathe herself, after her long being within doors in the dirt, so that she now pretends to a resolution of being hereafter very clean. How long it will hold I can guess.

## An apology for Mrs. Samuel Pepys

MRS. PEPYS did not take many baths—but no one did in the 17th Century.

Cold houses, lack of even tub-and-sponge facilities, made bathing an ordeal. The desirability of cleanliness was recognized, as Pepys' comment indicates—but the *practice* of cleanliness did not begin until bathing was made *pleasanter*.

Parke-Davis has applied much the same reasoning to vitamin therapy—*i. e.*, by making vitamin therapy pleasanter, its field can be substantially broadened. And to make it pleasanter, you have Parke-Davis Haliver Oil products.

It is a well-known fact that adults are more squeamish than children about taking cod-liver oil, and preparations containing it. Their aversion to fish oil is completely obviated by the high potency of Haliver Oil. All the adult patient has to do is to take one or two tiny, tasteless capsules, instead of those distasteful teaspoonfuls.

When vitamins A and D are needed, prescribe Parke-Davis Haliver Oil. Because it's pleasanter, you'll have the satisfaction of knowing that your treatment is being followed. And this holds true for children as well as adults.

Parke-Davis Haliver Oil (either Plain or with Viosterol-250 D and in bottle or capsule form) is available at practically all drug stores in the United States and Canada.

HALIVER OIL WITH VIOSTEROL-250 D  
Containing 32,000 vitamin A units (U. S. P. X.)  
and 3,333 vitamin D units (Steenbock) per gram.

HALIVER OIL PLAIN  
32,000 vitamin A units (U. S. P. X.) and 200  
vitamin D units (Steenbock) per gram.

PARKE, DAVIS & COMPANY

DETROIT, MICHIGAN

*The World's Largest Makers of  
Pharmaceutical and Biological Products*

# RELIEF OF



**FREQUENCY  
TENESMUS  
LUMBAR PAINS**



• the result of **PYRIDIUM** orally administered in urinary infections

The oral administration of Pyridium shortens the period of treatment in the majority of cases of cystitis — pyelitis — urethritis. Pyridium also affords early relief of the distressing symptoms usually associated with urinary infections. . . . .

*LITERATURE ON REQUEST*



**MERCK & CO. INC.**

Manufacturing Chemists

Rahway, N. J.

# NEMBUTAL

*Alley's* PRE-OPERATIVE  
FEAR AND NERVOUSNESS

**FREE**

HANDY POCKET PACKAGE FOR EMERGENCY USE



**WITHOUT NEMBUTAL—**  
Patient comes to operating room  
nervous and afraid.



**WITH NEMBUTAL—** Patient  
calm and unafraid. Less anesthetic  
is required.

● Nembutal (Pento-Barbital Sodium, Abbott) is of outstanding value as a pre-surgical sedative. Its profound sedative and short hypnotic action from a dosage only about one-half that required with certain other barbiturates; its rapid effect; the fact that it produces less delirium and restlessness; quick recovery due to the small doses used—all are important advantages. Nembutal is valuable also in minor surgery; in obstetrics, with or without morphine and hyoscine; dentistry; as a quick-acting hypnotic in insomnia; to calm and control nervous, excited and demented patients; and as an anti-spasmodic. Supplied by all prescription pharmacies in ½-gr. and 1½-gr. distinctive yellow capsules. Specify **NEMBUTAL, ABBOTT!**



**ABBOTT LABORATORIES, North Chicago, Illinois**

*Send physician's free pocket sample of Nembutal, Abbott, to*

\_\_\_\_\_ M. D.

ADDRESS \_\_\_\_\_



## THREE FACTORS are essential in BLOOD REGENERATION:

1. Formation of erythrocytes, stimulated by liver extract.
2. Formation of hemoglobin, stimulated by iron in an easily assimilable form.
3. Formation of the organic part of the hemoglobin molecule, facilitated by supplying the closely related animal hemoglobin.

The three principles are combined in

## HEMO-S

which also contains that fraction of liver, rich in copper, which is active in

## SECONDARY ANEMIA

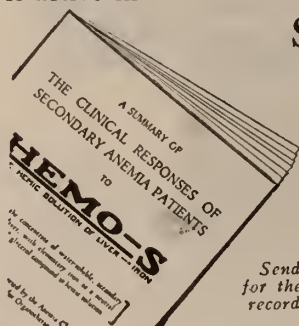
Hemo-S proved to be of the highest efficacy in most types of Secondary Anemia.

Write for literature to

**CHAPPEL BROS. INC.**

Laboratories

Rockford, Illinois



Send  
for these  
records

## CONTENTS—Continued

### EDITORIALS

If You Work in a Profession .....	93
Ultimately the Physician .....	94
We Ask State Department to Enforce Act.....	95
Decline of Birth-Rate .....	95
De Kruif Berates the Profession.....	96
An Opportunity .....	96
Medical Relief for Emergency.....	97
Dr. Colwell's Daily Log.....	101
Contraceptive Law Before Congress.....	101
Papers for Annual Program.....	102
Observations on Copy .....	103
Death of Doctor Thorp.....	103
MEDICAL ECONOMICS .....	104

### CORRESPONDENCE

Radium Lost. Harold Swanberg .....	104
Dr. Nelson Corrects Error .....	105
Good Water .....	105
Government Program or Socialization.....	105
Emergency Medical Care .....	106
Income Tax Reports .....	109
Southeastern Surgical Congress.....	111
Woman's Auxiliary .....	112
Educational Committee .....	112
Veterans Annual Report.....	113
Veterans Relief Modified.....	115
Every Ethical Physician Should Belong.....	174

### SOCIETY PROCEEDINGS

Bond County .....	180
Champaign County .....	180
Cook County .....	180
Madison County .....	181
Winnebago County .....	181
Marriages .....	181
Personals .....	181
News Notes .....	182
Deaths .....	184

## SEVEN YEAR'S USE

*has demonstrated the  
value of*

*The Surgical Solution*

*of*

**MERCUROCHROME, H.W. & D.**

*in*

## Preoperative Skin Disinfection

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

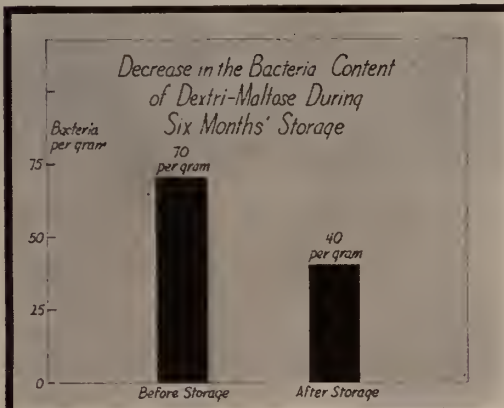
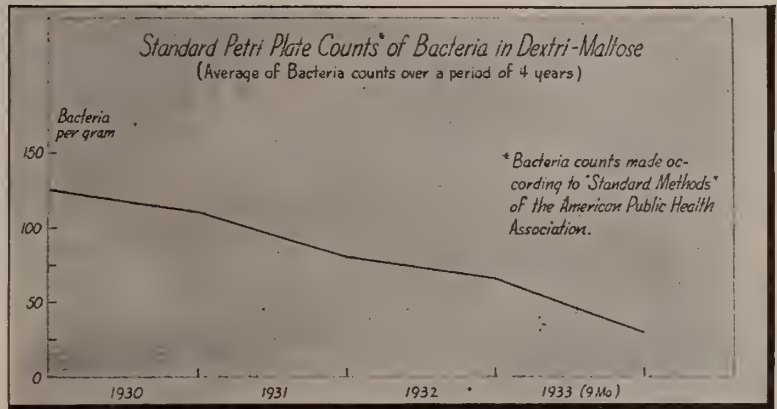
*Literature on request*

**Hynson, Westcott & Dunning, Inc.**  
BALTIMORE, MARYLAND

# Why we supply DEXTRI-MALTOSE in Powder form only . . .

## It is mechanically and bacteriologically clean

Prepared in powdered form, Dextri-Maltose is not likely to form a culture medium for micro-organisms. This graph shows that the bacteria count during a 4-year period is well under 125 per gram and only 30 in recent analyses. Contrast this with the count of 10,000 per cc., the maximum allowable for certified milk.



## Its bacteria count decreases during storage

A representative sample of Dextri-Maltose which, to start had a low bacteria count of 70 per gram, revealed a count of only 40 per gram after standing for 6 months at room temperature. During this period the container was opened 12 times for biweekly sampling, without any special precautions being taken to prevent contamination. Yet the bacteria count actually decreased.

## It will not support bacterial growth even after inoculation

The tin of Dextri-Maltose shown at right was inoculated with the thrush organism, a common dust-borne fungus. At the end of 17 days the Dextri-Maltose was free from visible growth. This is explainable by the fact that bacteria, yeasts, and fungi require moisture for reproduction—and the moisture content of Dextri-Maltose is extremely low, only 5 per cent. It is safe to say that no baby can be infected with thrush or other organisms from Dextri-Maltose, *per se*.

## DEXTRI-MALTOSE *clean — not cleaned*



Please enclose professional card when requesting samples to prevent their reaching unauthorized persons. Mead Johnson & Co., Evansville, Ind.



# A New Development in Infant Feeding

*The nutritional values of raw, uncooked vegetables to 2 weeks' old infants—without fear of gastrointestinal upsets*

**BioVegetin** makes this possible

*A palatable compound of finely powdered, dehydrated spinach, tomatoes and carrots, together with dry, powdered yeast irradiated by Steenbock Process.*

Because of its vegetable ingredients, BioVegetin is rich in Vitamins A, B and C, as well as those important mineral elements, calcium, iron and copper. Vitamin D and the B complex are added by the irradiated yeast, which is carefully autoclaved to arrest its ferment producing properties.

*Of utmost importance in infant feeding—BioVegetin is pathogenically safe.*



## Advantages of BioVegetin

Certain nutritional values are in raw vegetables which are not to be had from ordinary food sources. But these values are frequently impaired—even destroyed by application of heat and oxidation of cooking.

BioVegetin, however, offers its vegetable ingredients *raw and uncooked* dehydrated by a special process at low temperature, which removes the moisture without materially reducing the vitamin or mineral values.

Jampolis and Witt, whose clinical work with BioVegetin was the subject of a paper read before the joint meeting of the American Academy of Pediatrics, Regional Group No. 2, and the Central States Pediatric Society, report:

“BioVegetin offers a ready means for feeding vegetables to the young infant.”

“All infants took mixture willingly and thrived normally. No diarrhea was noted.”

“Determinations show hemoglobin values equal to, or slightly above, average normal.”

“None of the infants developed any signs of rickets or scurvy. One infant who presented evidence of milk rickets with craniotables showed healing three weeks after BioVegetin feeding was started.”

“No orange juice, cod liver oil, Viosterol or irradiation were given.”

Copy of this complete report, together with other evidence of BioVegetin's value as a supplement to bland and other restricted diets for grown-up invalids and convalescents, on request. Also professional sample.



**BioVegetin Products, Inc.**  
500-510 North Dearborn • • • CHICAGO





## IN ANGINA PECTORIS . . . CORONARY SCLEROSIS . . . CORONARY THROMBOSIS



Aminophyllin (Searle) relieves or obviates the pain of angina pectoris, coronary sclerosis, and coronary thrombosis on a circulatory basis, not through the nerve-numbing action of a narcotic or anodyne. The pain experienced in these conditions is thought to result from an ischemia of the cardiac musculature. Aminophyllin (Searle) tends to exert a specific dilating action on the coronary vessels. Through dilatation of these vessels the coronary circulation is improved, and the pain is relieved. \*\*\*\* When administered in tablet form, over prolonged periods, Aminophyllin (Searle), through this physiologic action, has a tendency to ward off attacks and to lessen the frequency

and severity of such attacks as do occur. \*\*\*\* Favorable results have also been reported in cardiac dyspnea and asthma, in heart block, and—together with digitalis—in heart failure. At least in part the salutary effect of Aminophyllin (Searle) in these conditions appears to be due to its strong diuretic value. \*\*\*\* Aminophyllin (Searle), developed and standardized in America by the Searle research division, is a strictly American product, made entirely from American-made ingredients. Because of this, it is credited with having aided materially in bringing this therapy—formerly considered costly—within the reach of every patient suffering from coronary disease or angina pectoris.

*G.D. Searle & Co.*

FINE PHARMACEUTICALS SINCE 1888

CHICAGO

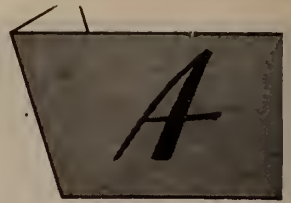
LOS ANGELES

KANSAS CITY

SPOKANE

*Aminophyllin (Searle)*  
C O U N C I L   A C C E P T E D

# ACETANILID



Known to the medical profession since 1886, Acetanilid is still among the most effective sedative and anodyne agents we possess. More than that, there is substantial agreement among those who have made careful experimental and clinical studies of the physiologic and possible toxic effects of this drug that it is *SAFE*.\*

Acetanilid is as safe as any coal tar derivative, safer and less depressant to the heart than many barbiturates. It has been administered to animals and patients over long periods of time without ill-effects.

Useful alone, the value of acetanilid is enhanced by combination with a sodium salt and with caffeine. Carefully controlled animal studies, showing this adjuvant value of caffeine have just been published.\*\*

Equally thorough studies of the effect of a preparation containing acetanilid (appr. 3 grs. per aver-

age dose), caffeine, sodium bromide and sodium citrate have been made on patients. The combined chart of ten patients reproduced on the next page demonstrates clearly the safety of such medication. Its clinical effectiveness can be easily verified in your own practice.

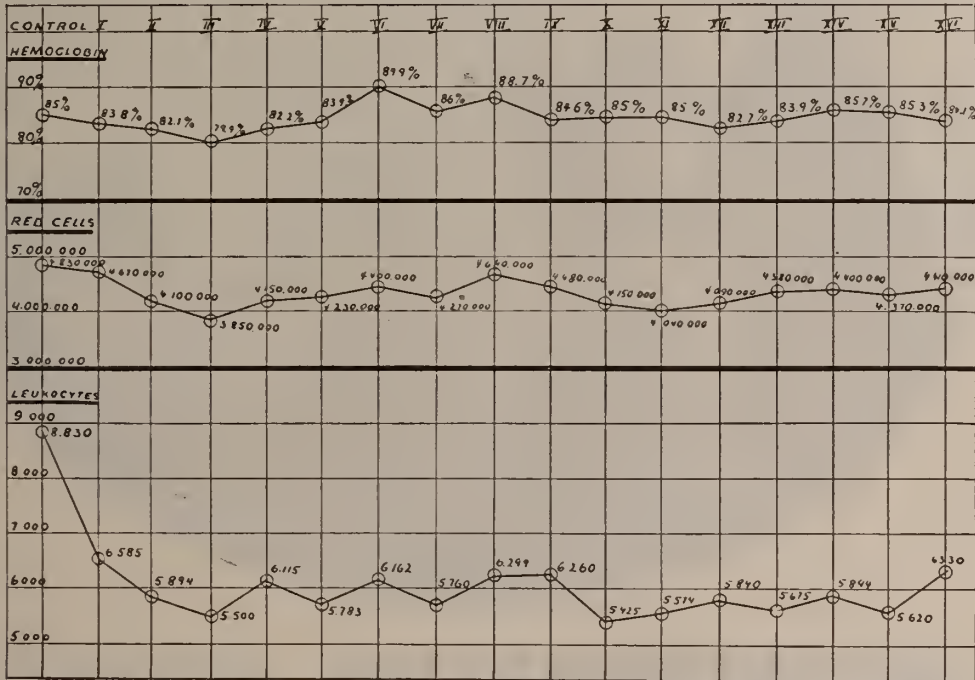
The above statements about acetanilid are condensed from more than twenty references in the literature. Believing the medical profession will be interested in knowing the history and true therapeutic value of this safe and useful drug, the Emerson Drug Company is publishing this as the first of a series of announcements on acetanilid and its uses. Naturally, support for every statement made is offered. Just use the coupon on the next page and we shall be glad to send you literature together with a sample of the preparation administered to the patients in question.

\*Space prevents direct quotations. A reprint is available which contains the most important ones.

\*\*Journal of Pharmacology and Experimental Therapeutics.

*safe and useful drug*

COMPOSITE CHART OF TEN PATIENTS



Five subjects received 11 grs. acetanilid daily in three doses within one hour, six days a week; five received acetanilid combined with an effervescent salt containing caffeine, sodium bromide and sodium citrate.

USE THIS COUPON FOR LITERATURE AND SAMPLE

EMERSON DRUG COMPANY,  
Baltimore, Md.

Please send me literature and sample as offered in your recent announcement.

.....M.D.

.....St. & No.

.....City & State

**EMERSON DRUG COMPANY**  
BALTIMORE, MD.





## MISINFORMATION BUREAU

Pseudo-facts fly thick and fast when the go-cart brigade assembles in the park . . .

Soon Mrs. Neighbor gets going full tilt on her favorite theories of infant feeding, and—well, it's just one more time when a baby's best friend is his doctor! For only a physician's advice—plus his explicit formula—can protect a youngster from haphazard, park-bench prescriptions.

For example . . . you know that certain brands of evaporated milk measure up to your high standards, while others may not. But unless you have told the mother specifically what brand of evaporated milk to use, Mrs. Neighbor's careless counsel may prevail. And your little patient may be given a milk that would never meet with your approval.

Borden's Evaporated Milk fulfills the strictest medical requirements for infant

feeding. The raw milk is carefully chosen. And every step in its preparation is rigidly supervised under constant laboratory control.

May we send you a simple, compact infant feeding formulary—and other literature which you will, we believe, also find helpful? Address The Borden Company, Dept. IL 24,350 Madison Avenue, New York.



Borden's Evaporated Milk was the first evaporated milk for infant feeding to be submitted to the American Medical Association Committee on Foods, and the first to receive the seal of acceptance.

*Borden's*  
**EVAPORATED MILK**



If *efficiency* is your first demand of a therapeutic preparation, you will decide on AGAROL for the treatment of constipation.

If *dependability* determines your preference for a therapeutic measure in the treatment of constipation, AGAROL will be your choice.

Because your patient must have *palatability*, freedom from oiliness and artificial flavoring, you will find in AGAROL the preparation your patient prefers.

WILLIAM R. WARNER  
& CO., INC.

113 WEST 18th STREET  
NEW YORK CITY

Agarol is the original mineral oil and agar-agar emulsion with phenolphthalein.

Liberal trial supply gladly sent to physicians.

# AGAROL — *for constipation*



## "I'm prescribing Elixir of Enzymes-ARMOUR'S"

"I'M PRESCRIBING Elixir of Enzymes—Armour's. Your druggist will have it."

Armour's Elixir of Enzymes, a palatable preparation of the proteolytic and curdling ferments that act in acid medium, is recommended as an aid to digestion and as a mild carminative for preventing or relieving colic or flatulence. Like all the other Armour products, it can be relied upon to be of *maximum and unvarying potency*. This is assured by exclusive Armour methods of preparation—the immediate processing of fresh raw materials, before the animal heat has become dissipated. You can specify by name—*Armour*—with confidence.

*When prescribing Pituitary preparations, Suprarenalin Solution, Corpus Luteum, Thyroid preparations, Ovarian Substance, Concentrated Liver Extract, Concentrated Liver Extract with Iron, always specify ARMOUR'S.*



**ARMOUR LABORATORIES, CHICAGO, U. S. A.**  
HEADQUARTERS FOR MEDICAL SUPPLIES OF ANIMAL ORIGIN



# RESULTS

**W**HILE Gastric Mucin has been in use only a few years, and only recently has been made available to the general practitioner on prescription, the clinical results reported suggest that it has a definite value.

The Committee on Gastric Mucin of the Northwestern University Medical School have obtained the following results from three separate Chicago hospitals and from a questionnaire report of other clinicians.

	<i>Clinic A</i> (1)	<i>Clinic B</i> (2)	<i>Clinic C</i> (3)	<i>Questionnaire</i> (4)	<i>Total</i>	<i>Per Cent</i>
Cases Treated	156	238	206	555	1,155	
Complete Relief of Symptoms	143	175	151	348	817	70.7%
Partial Relief of Symptoms	6	43	23	114	186	16.1%
Failures and Recurrences	7	20	32	93	152	13.2%

The purity and uniformity of Gastric Mucin (Stearns) are backed by years of experience in the preparation of physiological and biological therapeutic agents. Every batch is carefully assayed by the Gastric Mucin Committee of Northwestern University Medical School.

**DOSE** 80 to 100 gm.  
per day divided  
into five or more doses.  
Most conveniently administered  
in milk and cream.  
Literature containing tasty  
recipes sent to physicians  
on request.

**FREDERICK STEARNS & COMPANY**  
DETROIT, MICHIGAN, U. S. A.

\* (1) Atkinson, A. J.—Journal American Medical Association, Volume 98, page 1153, April, 1932.

\* (2) Brown, C. F. G.; Cromer, S. P.; Jenkinson, E. L.; Gilbert, N. C.—Journal American Medical Association, Volume 99, page 98, July, 1932.

\* (3) Fogelson, S. J.—Illinois Medical Journal, December, 1932.

\* (4) Submitted for publication. (Totals of patients brought to date.)

\*

# ELI LILLY AND COMPANY

FOUNDED 1876

Makers of Medicinal Products



## LEXTRON (*Pulvules No. 55*)

FOR ORAL USE IN ANEMIA AND  
OTHER CONDITIONS

A liver-stomach concentrate with  
iron and vitamin B.

*Effective*—nine capsules produce at  
least 75 percent as much hemo-  
globin as 300 grams of fresh  
liver.

*Convenient*—three capsules, t. i. d.

PROMPT ATTENTION GIVEN TO PHYSICIANS' INQUIRIES

ADDRESS ELI LILLY AND COMPANY, INDIANAPOLIS, INDIANA, U. S. A

# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., February, 1934

No. 2

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1933-1934

PRESIDENT.....PHILIP H. KREUSCHER, Chicago  
PRESIDENT-ELECT.....CHARLES D. CENTER, Quincy  
1ST VICE-PRESIDENT.....C. G. FARNUM, Peoria  
2ND VICE-PRESIDENT.....H. V. GOULD, Chicago  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1934  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1934  
S. E. Munson, 5th District, Springfield .....1934  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1934  
C. E. Wilkinson, 8th District, Danville .....1935  
Andy Hall, 9th District, Mt. Vernon .....1936  
J. S. Templeton, 10th District, Pinckneyville ...1936  
Edw. S. Hamilton, 11th District, Kankakee .....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, *Secretary*.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN McARTHUR, *Secretary*.185 N. Wabash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, *Chairman*...4034 W. Madison St., Chicago  
HAROLD M. CAMP, *Secretary*.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, *Secretary*.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers. State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Ave., Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

IF YOU WORK IN A PROFESSION, IN  
HEAVEN'S NAME WORK FOR IT.

IF YOU LIVE BY A PROFESSION,  
LIVE FOR IT.

These are the days when a man takes stock of his investments.

A lot of gold ink and steel engraving in many a safety deposit box proves up to be only brass of a smart salesman, and pure slag as a sample of the brain that the medico had when he sank the few dollars he had managed to collect from a more or less ungrateful clientele into something "tangible" for his family.

There's one stock certificate that never mocks a doctor with depreciation or dirt. That is a doctor's investment in his *state society*. This costs a man but two cents per day in Illinois. If a physician uses membership in the state society as he should, he can count on a return of 1,000 per cent. Can you beat that, doctor?

Doctors are going to have to use the state society membership, and to make it work for them, or the state of the individual members of the medical profession is going to be worse than that of the man who had two chances at having the evils swept out of his house.

Unfortunately, membership in the state societies seems to be appreciated far more by those who have been deprived of that privilege than by those to whom such membership is a retained right by virtue of adherence to the Hippocratican oath.

No good doctor can afford to be anything but a good citizen. And no good citizen who is a good doctor, and the two are synonymous, can afford to lack membership in the state organization of ethical medicine acknowledged and honored by that commonwealth in which he or she resides.

Whether you agree or disagree with Gen. Charles Gates Dawes in all of his creeds and tenets and bylaws and wherefores you have sim-



ply *got* to admire the man for much of his sentiment and for many of his principles.

Young and *old*, doctors as a group should give "Hell'n-Maria" Dawes a salute for this keen, clean, good-American sentiment:

"If you work in a profession, in Heaven's name work for it. If you live by a profession, live for it. Help advance your co-worker. Respect the great power that protects you, that surrounds you with the advantages of organization, and that makes it possible for you to achieve results. Speak well for it. Stand for it. Stand for its professional supremacy.

"Hazard a guess as to what the present status of the individual physician would have been had he not been surrounded 'with the advantages of organization' during the days of our recent troubled past.

"The many and valuable advantages of membership in the Illinois State Medical Society appear to be known to but few members and undoubtedly are absolutely strange to every unassociated physician. The modern work of medical organization includes legislative protection and medico-legal defense for the practitioner, a central executive office where Service is found by both physician and the public, a constantly alert public relations program, a smoothly running machinery solving problems which could not be worked out by the individual physician, elimination of the pseudo and promotion of the ethical practitioner of medicine. Also the professional and educational advantages, including membership in the American Medical Association, the frequent scientific meetings, the post-graduate courses, and the state journal, as well as the economic protection against schemes perpetrated to defraud the gullible professional man.

"Aside from the advantages which mean 'something tangible' to a member of organized medicine, there is one great consideration which cannot be overlooked—a benefit which makes the non-member pay a costly price for his unorganized status. This is the good reputation with the public, the law, and the profession which the individual physician gains from association with the well recognized Illinois State Medical Society. These are not idle words. People are canny; they now look to the Society for all types of information on physicians. Amazingly, there is no exception. The veteran practitioner as

well as the newest member of the profession is the subject of inquiry some time or other by the public, or by their confreres in medicine. Your ethical reputation demands that you help support the profession by which you live. In our state it costs but two cents a day, less than the tip you gladly extend to your luncheon waiter.

"Hold and value what you now possess. You can't afford the price of non-membership."

---

### ULTIMATELY THE PHYSICIAN FINDS HIMSELF WHAT IS COLLOQUIALLY KNOWN AS "THE GOAT" IN EVERY HUMAN CRISIS.

Victims of "depression shock" and "depression neuroses" are ubiquitous in this distressed land of ours. Such men and women are in a fix as sorry as the shell-shocked men of the World War. Their mending must be of the mind as well as of the body.

Doctors may as well prepare themselves to be affected by this depression in the same way as they are affected by every other human woe or emergency. Ultimately the physician finds himself what is colloquially known as "the goat" in every human crisis. Physicians have seen their incomes diminish as steadily as snow by a hot sun. Yet their public economic responsibilities have increased as rapidly as have those of every honorable citizen. During the war, that terrible conflict that precipitated this terrific distress, doctors were at the forefront and came home to face conditions even worse than those of others who forsook all they held dear to fight for democracy. For while the physician was in the front line dressing stations and the field hospitals, communists and parlorpinks and misguided lay meddlers and politicians at home were sending the medical profession to the "damnition bow-wows" in so far as they were able in spite of the preservative impediments put forth by those doctors who were too old to go to the front and fight. Now as the clouds are lifting somewhat the doctor faces still another bit of gross tonnage and tare weight.

Not the least terrible effect of the four year depression is the resultant human wreckage. Remember that it is "men who build the state." And of the men who have made our state the greatest within history there is an appalling number who can never again enter the economic

ranks. As a result of the depression's four long and weary years so many persons, both men and women, are so broken in mind and body by prolonged unemployment that they are unable to take jobs, even when these jobs are made for them. Four years of worry, grief, insufficient food, inadequate clothing and shelter have taken a toll that was inevitable.

Even if a percentage of these unfortunates are reclaimed they cannot have escaped permanent scars on their characters.

Every physician who has managed to survive has noticed how greatly personality problems have increased in the depression. Nervous disorders are rife. Thousands and thousands are run down physically from lack of nourishment. For a long time a great many who get jobs will be unable to make good on the job. Only too many men and women will be found to have an insufficient earning capacity to care for their families. One of the greatest tasks confronting the private relief agencies during the future will be the necessitated post-depression care aimed at rehabilitating these "depression-shock" victims among the bread-winners both according to their individual problems and with an eye to the protection of their children.

Doctor, you can see you have your work cut out for you in that difficult field of rehabilitating the despondent and the neurotic.

### **WE ASK THE STATE DEPARTMENT OF REGISTRATION TO ENFORCE THE MEDICAL PRACTICE ACT**

At the meeting of the council of the State Medical Society in Springfield in January, a resolution was passed asking the State Department of Registration to enforce the plain provisions of the Medical Practice Act.

The resolution is as follows:

WHEREAS; The Practice of Medicine as a business by a corporation as legally defined has been declared illegal by the Superior Court of Cook County, even though the employees of such corporation be licensed physicians, and

WHEREAS; Professional connection or association with, or lending one's name to another for the illegal Practice by another of the treatment of human ailments as a business, or professional connection or association with any person, firm, or corporation holding himself, themselves,

or itself out in any manner contrary to this "Act," is sufficient legal grounds for the revocation of one's medical license; and

WHEREAS; it is a matter of common knowledge that corporations are actively, openly and flagrantly violating the Medical Practice Act, as evidenced in part by extensive advertisements in the public press and over the radio, Therefore Be It

*Resolved;* that the Council of the Illinois State Medical Society call upon the State Department of Registration and Education to enforce, without fear or favor, the plain provisions of the Medical Practice Act.

### **DECLINE AND FALL OF THE NATIONAL BIRTH-RATE**

As a nation, the United States dare not overlook the fact that a bit further along the road it is confronting the same precipice upon the brink of which Great Britain stands now. It is in fact a burning Caucasian question.

Foreign statisticians tell us candidly that the momentous fact maintains that after a century of extraordinary expansion "the population of England is rapidly approaching a maximum, and then an inevitable decline, attracts little notice."

The present birth rate is held insufficient to maintenance of present population, a condition prevailing we believe here in the United States or at least well on the way to such a tendency. (?)

Of the British situation before the Royal Sanitary Institute one of the statisticians, A. M. Carr-Saunders by name, pointed out that "the population of England will cease to increase in 1940, and possibly before then, and will subsequently decline. Since the Domesday survey, at the end of the eleventh century, estimates for every succeeding century show increases interrupted only by temporary catastrophes. It can be proved that the death rate will presently exceed the birth rate, and that the population will begin to decrease without any further decline in the fertility of married women—that is to say, in the size of the family. There is no longer 'a replacement birth rate.' The number of children born within the last five years, who in twenty years should form the 20-25 years age group, does not equal the number now in that group. Moreover, some of them will die before reaching the age of 20. The important point is that the population will cease to increase and will then



decline, even if there is no further decrease in the size of the family. But the size of the family decreases every year. If emigration were again to attain its pre-1929 level, a decline would set in before 1940. Emigration on this level from 1929 to 1940 would mean a drop of population by a million at the end of that period. He complains that there is a complete failure to appreciate the situation. He has seen plans which visualize a population during the next half century arrived at by projecting the continuance of the growth of the last fifty years. In one case a large expenditure has been incurred to supply water for a population that will never exist."

The *immigration* factor must be considered by American Statisticians but even that does not materially change the balance as to world population figures for the Caucasian race.

---

### DE KRUIF AGAIN BERATES THE MEDICAL PROFESSION

It is doubted if the average physician of the United States makes half as much money out of the legitimate practice of his profession as do misinformed lay exploiters of medical men through their slanderous attacks upon medicine and its methods. These quacks of the quill are arrant charlatans of the written word whose actions call for summary treatment. Sooner or later some champion will rise in his wrath and slay enough of these literary jackals to put the fear of the truth into the craven judgment of the rest of them.

One of the most notorious of offenders in this direction is Paul De Kruif. His nefarious system is to seize upon a titular catch phrase that would make a fortune for any fake factory of pills and poultices, and, appealing to the neurotic emotions or the better sympathies of his readers, double damn the medical profession and pelt it with pails and pails of mud and muck.

Some years ago De Kruif cleaned up neatly on a series of article in the *Cosmopolitan*. Later he published a book on "Microbes." His stock of trade was and is microbes, but a month or so ago he found still another siding upon which to trundle his freight of misrepresentation.

No less highly esteemed a periodical than the *Ladies' Home Journal*, owned by the estate of the late C. K. Curtis, to whom Jefferson Medical College of Philadelphia owes its Curtis clinic—

of its kind the finest building in the world—came out with one of De Kruif's deceiving knick-knacks. Under the title "Why Should They Go on Dying?" De Kruif demands the procedure of the collapse theory of tuberculosis for every tubercular patient, as it were, whether this treatment should be deemed necessary by his physician or not. Useful in some cases of tuberculosis, De Kruif seems to think that herein lies the panacea for all tubercular infections.

And because since he has heard of it—and that evidently only within the past few months himself this arrant bragadocist has the impudence to stand up and to charge the medical profession with "cowardice, ignorance and neglect;" he names only seven places in the United States where it is obtainable, though in Illinois alone it has been used as a routine procedure in scores of institutions for a quarter of a century. In addition, hundreds of Illinois physicians and surgeons have for two or more decades done, and are still doing, this work when it is indicated and advisable in cases of tuberculosis.

There is not a state in the Union where this operation has not been available for a quarter of a century in all institutions, and available at the hands of scores of private practitioners. An authority, commenting on the De Kruif article, says: "In North Carolina alone it has been used for nearly a quarter of a century, and in that state alone some twenty-five private practitioners and at least fifteen institutions use it as a matter of course."

It is understood that the present editor of the periodical named has refused to rectify some of De Kruif's most glaring misstatements. Some day De Kruif will be hanged by his own petard and the justice of this would be appreciated by the profession at large and should be applauded by the public whom this in our estimation incompetent medical critic would delude.

---

### AN OPPORTUNITY FOR THE MEDICAL PROFESSION

The United States Government is promoting a "Child Health Recovery Program" for the relief and border line families. The object is to determine if there are in these families children suffering from insufficient food or from pathological defects which interfere with their nutritional welfare. This is definitely a medical prob-



lem and should be done under the leadership and direction of the State Department of Health and the Illinois State Medical Society.

Dr. Martha Eliot, in whose hands the Government has placed the task of promoting and organizing this work in the various states, has come to Illinois and asked the State Department of Health and the State Medical Society to take the responsibility of carrying out this program in the State.

When and if these bodies take over this responsibility, her work is finished. The Department of the Federal Government which she represents retires from the scene and stands ready to assist or advise when and only if invited to do so.

Here is presented a real opportunity for the members of the Society as an organization to lead and direct a piece of medical work, the like of which has always formerly been initiated, planned and executed by new or old lay organizations. Will the regular organization rise to the occasion?

The County Society will be the unit of the organization to carry on this program. The physicians are to furnish leadership and medical service. All examinations are to be made in the physician's office or such other places as the County Committee shall designate.

From the physician's standpoint, the program is based upon the effort to return all patients on temporary relief to their family doctor and re-establish that personal relationship between patient and physician. Local lay members of the County shall be appointed by the County Medical Society. The lay members will assist the physicians and through various local organizations arrange for the medical examination of the children by the physicians.

Whereas, the emergency program is to care for the indigent people on relief or near relief, the broader program comprehends the education of the self-supporting public to become more child minded and learn the importance to the health of the child, of systematic and periodic medical examination and supervision by the family doctor.

There will be no compensation for the initial examination in this survey for undernutrition in the child.

The following agreement has been entered into by the Illinois State Emergency Relief Com-

mission and the representatives of the Council of the Illinois State Medical Society.

The following quotation is from the "Illinois plan":\*

"Medical care under the regulations of the Illinois Emergency Relief Commission is to be furnished only to recipients of unemployment relief under a uniform policy which recognizes within legal and economic limitations, the traditional relationship existing between the physician and patient. . . . The service is strictly limited to meet conditions which are causing acute suffering; interfering with earning capacity; endangering life or threatening some permanent new handicap that is preventable. It provides for compilation of a list of physicians through local medical societies to which is added the names of other bona-fide medical practitioners who agree to the plan. Fees are based upon a flat-rate, i. e. not exceeding \$1.50 for home calls or \$1.00 for office calls, with a one way mileage allowance of 25 cents outside the corporate limits of the city where the physician resides and \$20.00 for obstetrical service including pre-natal and post-natal care. Other fees are not to exceed 50 per cent. of the minimum ordinary charges to patients of similar economic status. Hospitalization is allowed only in extraordinary emergencies. Provision is made for the patient to select his own family physician if the latter has agreed to come under the plan, otherwise the local person in charge of medical relief shall designate a doctor from the list who may be one who lives near the patient. . . ."

The detailed program of this Child Health Survey has been formulated by a committee appointed by the Council and will be acted upon by the Council of the State Medical Society at its next meeting.

Surely this is an opportunity for the Medical Society to assume leadership. An opportunity to render valuable medical aid to the deserving public, an opportunity to acquaint the public of the value to the children of regular medical examinations and supervision.

\*From the Bulletin of the Chicago Medical Society.

## MEDICAL RELIEF—FOR EMERGENCY ONLY!

What medical relief is extended by the Federal government should be understood definitely as an *Emergency* relief measure only.

Anything else but that will be medical acceptance of still another chain in the fetters of bureaucracy.

A fundamental principle of major importance, and, with a lethal converse for the medical profession, is therein involved.

Doctors have not failed once in their civic

duty during this depression. In this reconstruction period many medical societies are entering into agreements with legally constituted relief societies and agencies, which agreements are intended to insure the provision of needed medical service to those, who because of unemployment, or because of other misfortunes resulting from the unfavorable economic situation are both unable to provide for themselves or to pay for required medical service. In every instance under these agreements, the physicians receive but very limited compensation. Even that is a godsend to many a doctor. Many physicians have exhausted all their resources by sustaining service, and disbursing medical care throughout the depression, for which they have all been paid but little, if at all. Such men can carry on no longer unless from some source there is some income derived. In accordance with the traditions of their profession these men have given both themselves and all their material possessions in the service of humanity.

"Experience is a dear teacher" but a teacher of great efficiency. The medical profession almost to a man is hoist by its own petard of service.

At the outset it should be distinctly understood just what is meant by this "Emergency relief" service, and the point maintained that it IS only *emergency relief* and that it *shall cease* when times resume even an *approximate normalcy*. Those medical societies, that enter into these emergency relief agreements, should act on the basis that when the emergency is passed that *these agreements shall be ended*.

So well phrased and excellently connoted are the ideas on this subject as projected both by the Ohio and the New Jersey State Medical societies that it is thought well to reproduce these here as well as a comment from the *Bulletin of the Academy of Medicine* of Cleveland, Ohio.

#### OFFICIAL STATEMENT OF COUNCIL OF THE OHIO STATE MEDICAL ASSOCIATION

Intimately identified and genuinely concerned as the medical profession is with all problems of public and individual health, social welfare, economic distress, unemployment, possible undernourishment and other factors inimical to physical well-being, human safety and comfort, the Ohio State Medical Association, representing the great majority of ethical and legally qualified physicians in Ohio, desires to cooperate with all

official and voluntary agencies similarly concerned with these problems.

As an altruistic profession, physicians, in innumerable cases, have continued to care for the indigent sick and semi-indigent sick for so long that the matter has become a tradition. With the unusual situation at the present time a considerable portion of the public has come to look to the medical profession for this sort of service without any remuneration, in spite of the fact that the medical profession as a group requires economic support in relative proportion to other groups.

The situation is a public responsibility and should be remedied. On the other hand, physicians, in many instances, have not been receiving sufficient income from their total practice to make it possible for them to continue to carry the extra burden of the needy sick who are unable to pay.

As announced in Rules and Regulations No. 7 issued by the Federal Emergency Relief Commission "the policy adopted shall be to augment and render more adequate facilities already existing in the community for and provision of medical care by the medical, nursing and dental professions to indigent persons," and that "all fees shall be established on the basis of an appreciable reduction from the prevailing minimum charges for similar services in the state and local communities, with due recognition of the certainty, simplicity and promptness of payment."

We are further in agreement with the policy as announced by the federal government and approved by the State Relief Commission "to recognize within legal and economic limitations the traditional family and family-physician relationship in the authorization of medical care for indigent persons," and with the further principle of endeavoring to preserve, as far as possible, the "free choice" by individuals in the selection of physicians.

Since the issuance by the State Relief Commission of Ohio of its Supplement No. 1 to Federal Rules and Regulations No. 7, under date of Sept. 20, 1933, establishing a temporary plan for emergency medical care to the needy unemployed, numerous problems have arisen. It was, of course, recognized that the amount of federal-state funds available for distribution by the State Relief Commission to local communities was limited, and that these funds would be inadequate to provide necessary medical care. We appreciate the co-operative spirit of the State Relief Commission and the State Director of Health in wishing to make available as promptly as possible those funds that could be distributed for this purpose in Ohio.

We find, however, that in some communities there has been a tendency to utilize the inadequate fee schedule proposed by the State Relief Commission as a "pattern" or gauge for general medical services, in spite of the fact that the State Relief Commission has specifically stated that "these fees are not intended to establish such low rates in ordinary practice."

It is estimated in many communities that the "overhead expense" to physicians in rendering service to patients is at least 50 per cent of the ordinary fees



collected. As the suggested fee schedule proposed by the State Relief Commission is in many instances less than one-half or even one-third of the ordinary fees, physicians are confronted with the problem of continuing to render medical care to the needy at a definite financial loss.

It is our opinion that on account of the widely varying local problems and conditions peculiar to each community, it is impractical and not feasible to apply a standard fee schedule for the entire state, which, if attempted, will lead to misunderstandings and difficulties. It is our desire to aid in meeting the present medical emergency relief requirements, and for this reason we feel that certain adjustments and modifications are necessary.

It is our recommendation, therefore,

1. That the temporary plan and fee schedule proposed by the State Relief Commission in its announcement of Sept. 20, 1933, to local relief officials be abandoned, and that in each community which is receiving or is entitled to receive federal funds for "relief," the State Relief Commission apportion on the basis of the needy population the proportionate share of such funds to which such communities are entitled, without a definite stipulation as to the amount of the fees for each case served, but with the definite understanding that the general regulations and limitations under which such funds are distributed be adhered to strictly;

2. That the relief officials in each community, after official local conferences and *agreements*, with representatives of the county medical societies, establish fee schedules applying in such communities for services to the indigent and the needy unemployed at approximately two-thirds of the customary fees, with due consideration for customary fees in each community, with proper differentiation between fees for house calls and office service, and with proportionate differentiation between day and night services, mileage, distance and difficulty in reaching patients.

3. That the proportion of the federal-state funds available be supplemented by local funds on which to base such local agreement of fees in accordance with the proviso in Federal Regulations 7 to the effect that "this schedule (fee schedule) shall only apply where the expenditure of federal relief funds is involved and shall not preclude the payment of additional amounts from local funds";

4. That in case of injuries or disabilities not contemplated under ordinary house or office calls, the schedule of fees under the Workmen's Compensation Law with the present 20 per cent discount be the prevailing fees for such services to the needy;

5. That in those communities where federal-state funds are not available, the principles set forth in this statement shall be adopted through conferences between representatives of the county medical societies and public officials, particularly those principles pertaining to the preservation of the family and family-physician relationship and the "free choice" by the patient of his medical attendant;

6. That in view of the fact that the "relief" program is *emergency and temporary*, the medical profession in each community, through its official county society or academy of medicine, have equal authority with the public officials or local relief commission to determine when such emergency and temporary plan shall end, at least so far as medical service is concerned;

7. That it be clearly understood that any fee schedule adopted, approved or in effect locally shall apply only for medical services to the indigents or needy unemployed *and during the term of the present emergency*.

It is agreed by the Council of the Ohio State Medical Association that this statement and report be transmitted promptly to the State Relief Commission for its information, and to the secretaries of the county medical societies and academies of medicine for their information, guidance and comments.

#### NOT ALL IS GOLD

The plan of compensation offered by the County Relief Administration will be welcome to some members of the profession, but most physicians will recognize in the plan potential dangers.

It is proper that the chronic pauper who is with us in good times and bad be a charge on the community, and it is proper that the physician be recompensed in some manner for his care. To include the temporarily indigent families in the same category, however, greatly complicates the picture. In the first place, the latter group is so large that any real attempt to pay for medical service on even the minimal fee schedule established by the government will quickly exhaust the available budget, and will prove an added burden on the already heavily laden duplication of taxes, for these funds must in the end come from taxes. In the second place, the participation of the government in the practice of medicine and in establishing fees, even in this small way, has dangerous potentialities and may pave the way for greater participation of the government in the practice of medicine in the future. From time immemorial it has been recognized as the physician's privilege and duty to care for the needs of his patients, whether in times of prosperity or want. This idealistic interpretation of our obligation to the public has always worked to the best interest of both patient and physician. In the third place, the way is open for the less conscientious physician to capitalize on the plan, to the detriment of his patients of the indigent class and to the discredit of the profession.

These objections have been minimized but not eliminated by the modification of the plan approved by the Academy. We prefer to look upon the plan as an emergency measure which will bring temporary help to members of the profession who are seriously in need of it. We would expect the majority of the profession, less in need to continue caring for their indigent families, as they have in the past, without expecting remuneration.

Whether we participate in the new relief plan or whether we do not, we will continue to give to our patients, be they rich or poor, the best professional serv-



ice which we are able to offer. As long as we do this, the future holds little danger for our profession.

D. M. G.

—*The Bulletin of the Academy of Medicine of Cleveland, November, 1933.*

## EMERGENCY RELIEF IN NEW JERSEY

The Medical Society of New Jersey, through a committee under the chairmanship of Dr. Spencer T. Snedecor, and the New Jersey State Emergency Relief Administration have developed a plan for providing medical service for persons whose names appear on the lists of the E. R. A. The plan, approved by all of the county societies of the state, is presented in the *Journal of the Medical Society of New Jersey* as follows:

### THE PLAN

#### PREAMBLE

In accepting this opportunity to cooperate with the E. R. A., the medical profession acknowledges its responsibility first and foremost to provide the best possible medical care to the indigent poor of New Jersey; and, secondly, to the profession itself to promote and safeguard its interests.

Several broad principles may be enumerated:

(1) The medical society enters into this plan for the period of the emergency only and it shall have the power to designate when the emergency is over.

(2) The control of the administration of the medical relief shall reside with the society through its designated state and county committees.

(3) The present and future policies shall be subject to the approval of the society.

(4) The preservation of the personal relationship between the doctor and patient shall be paramount.

(5) The fee schedule in general shall be on a basis of about two-thirds the customary fees.

(6) The payment of fees shall be arranged on as simple and easy a basis as possible to facilitate collection by the doctors.

(7) It shall be agreed that medical relief shall be supplied by the individual physicians, preferably by the patient's own or previous physician, and shall insure free choice of physician by the client.

(8) Clinics shall not be formed except as approved by the Medical Relief Committee of the State.

(9) It shall not be the policy to develop and centralize medical care in the hospitals or clinics except in so far as special diagnostic and treatment aids are needed.

(10) The E. R. A. shall not pay physicians for work in clinics; nor shall it pay hospitals for admission clinic charges.

(11) It shall not be the policy of the E. R. A. to substitute midwives for physicians in obstetric cases.

(12) Problems will arise in some counties requiring special recognition and treatment.

It is recognized that there are grave dangers inherent in this plan, such as the development of a bureaucracy both in the medical organization and the

E. R. A.; that favoritism to certain physicians may develop; that unethical practices must be watched.

The designation of who shall receive medical relief as provided by the E. R. A. is primarily for the E. R. A. to decide. However, the Medical Relief Committee of the State may make suggestions.

That the medical society enter into this plan for one year or for the emergency only.

### ORGANIZATION

The organization of Medical Relief shall be as follows:

A Medical Relief Committee to be known as the Medical Relief Committee of the State Society shall be organized and assigned the following duties:

(1) To formulate policies and plans in cooperation with the E. R. A.

(2) To carry on a close liaison with the E. R. A.

(3) To organize a subcommittee in each county to be known as the Medical Relief Committee of the County.

(4) To act on all complaints or requests from either the E. R. A. or the county committees.

(5) To gather as accurate reports as possible of the work in each county.

(6) The district councilor on the committee shall act as organizer and supervisor of the work in the counties in his district.

### MEDICAL RELIEF COMMITTEE OF THE COUNTY

(1) Shall be appointed in each county.

(2) Shall organize to supervise the work in each county in cooperation with the County Relief Administration.

(3) Shall maintain at all times direct control over the Medical Relief.

(4) Shall have power of approval or adjustment of bills, such as those objected to by the E. R. A. as being exorbitant, false or technically incorrect.

(5) Shall have frequent contact with the E. R. A.

(6) Shall secure monthly reports of the amount of work done, bills presented, bills paid, doctors receiving payments and amounts, and any other pertinent information.

(7) Shall be zealous to provide the best medical care—cooperate with the other health organizations, particularly nurses.

### NOTE TO THE OFFICERS OF THE COUNTY SOCIETIES

To the Presidents and Secretaries of the County Medical Societies:

The Medical Relief Committee of the State Society submits herewith a memorandum of an agreement entered into with the State Emergency Relief Administration which outlines the practices to be observed in taking care of Emergency Relief clients.

In reading this plan you will observe that we have agreed to set up in each county a Medical Committee to be known as the Medical Relief Advisory Committee of the county to cooperate with the County Director

in order that the principles set forth in this plan may be started in operation.

The Committee, therefore, requests you to take the following immediate steps:

(1) The County Society shall appoint or elect a committee of not less than 5 members to be known as the County Medical Relief Advisory Committee.

(2) This committee shall immediately prepare for submission to the County Director a list of licensed physicians within the county who are willing to accept Emergency Relief cases.

(3) The committee shall contact the County Director of Emergency Relief at once to arrange a fee schedule for the Emergency Relief clients.

(4) While the maximum fees of \$1 for an office call, \$2 for a house visit, and \$25 for an obstetric case have been agreed upon, the rate for your individual county shall be based upon a proportion of from one-half to two-thirds of the prevailing average fees in your county.

Several parts of the plan are worthy of special attention:

The doctors shall strive to take care of the clients in the home and shall only refer them to the hospital for emergency conditions.

The method of submitting bills should be carefully studied and it should be noted that no cases shall be charged to the Emergency Relief Administration unless properly authorized.

It will be necessary to inform every member of your society about the details of the plan and it will be published in the next issue of the State Journal. (See Aug., 1933, Journal, pages 591-593.)

The committee stands ready to assist in any way possible to help in organizing or to smooth out troubles which may arise. We have promised the Emergency Relief Administration the wholehearted cooperation of the profession.

(Signed by members of the Committee of the Medical Society of New Jersey.)

### DR. COLWELL'S DAILY LOG FOR PHYSICIANS

A daily service of genuine helpfulness to every physician and a sine qua non for a bird's eye view of a medical man's daily financial condition is presented in the "Daily Log" for physicians issued by Dr. John B. Colwell of Champaign, Ill., and published by the Colwell Publishing Company.

For a number of years this volume has been a first aid to every busy doctor and his pocket book. Since first put out it has been subjected to yearly revisions and annotations though the general principle remains the same. "The Log" is just what its name says it is. Here is a daily financial record that is a brief, accurate, easily kept practical accounting system with daily,

monthly and yearly totals, and monthly summaries and balances of income and expenses. It is *not* a ledger. To make a complete accounting system, a ledger must be run with it as the ledger is necessary for gathering together separate items of an individual account. However, this "Daily Log" is about the best thing that a busy man can have. It is easily kept by any intelligent office assistant and shows the physician the progress of his business day by day, and at the close of the year sets forth the basic figures needed for the income tax return.

Though not a clinical record there is a "Service Rendered" column for brief annotations of clinical facts.

Containing over four hundred pages, the ledger provides a separate page for the transactions of each day of the year with extra spaces for monthly and annual summaries, expense tables, special records, and incidental memoranda. The volume is not to be confused with the small or pocket-size diaries often furnished for physicians' records, since each page offers sufficient room for the recording of thirty-two patients per day, tabulating the service rendered and the financial account accompanying the transaction. Where fewer patients are seen, the additional space may be readily utilized in recording prescriptions given or essentials of the physical examination. The system is built on a loose leaf plan and durably bound in fabricoid. This is the best and most compact financial record which has come to our attention.

### A CONTRACEPTIVE LAW BEFORE CONGRESS

Physicians and medical societies throughout the United States, no matter which side they take on such a highly controversial subject, are watching with interest proposed legislation before the Seventy-third Congress calling for amendment of the present federal birth control laws. These amendments, commonly known as the "Doctors Only" bills, are Senate Bill 1842, sponsored by Senator D. O. Hastings of Delaware, and House Bill No. 5978, introduced by Representative Walter Pierce of Oregon.

The proposed new bill provides as follows:

" . . . that Section 211 of the Penal Code of the Federal Statute shall be amended that it shall not apply to the mailing, delivering, or receiving



of any written or printed matter concerning the prevention of conception, or of any appliance, drug or thing adopted or intended therefor, as between lawfully practicing physicians and their bona-fide patients, duly licensed druggists, importers or exporters of medical appliances or drugs, manufacturers thereof, wholesale dealers therein, and medical publishers and scientific books and reprints therefrom, provided such mailing, delivering, or receiving is in the due and proper course of such profession or business."

This proposed legislation would amend the existing federal restrictions so as to legalize the sending or receiving of contraceptive information, instruments and medicines between physicians and their patients, medical colleges and hospitals and from physician supply houses and manufacturers.

Under the present statutes, penalties of heavy fines and imprisonment may be inflicted for transporting any article intended for the prevention of conception or receiving for distribution to others any such article that has been transported interstate or by the Government mails. For several years there has been a controversy as to the propriety of the present Federal legislation, as there are many who contend that the Constitution does not grant the power of law to abridge the right of the physician to protect the life and health of his friends and patients.

The sponsors of the "Doctor Only" bills merely seek to place the responsibility for prescribing contraceptive action where it rightfully belongs—in the hands of the medical fraternity.

Leading doctors also contend that this change in the statutes will greatly aid in the proper care of cardiac, tubercular and diabetic patients where pregnancy is contra-indicated and where conception would necessitate a therapeutic currtment.

The far-reaching importance of these bills is daily becoming more apparent to American physicians. The passage of these laws will depend largely upon the expressions received from the physicians, and there is yet time to express such views to their Congressman or the Senator and Representative mentioned above who are sponsoring these bills to amend the present laws for the interest and protection of the medical profession.

## DOCTORS DESIRING TO PRESENT PAPERS AT 1934 ANNUAL MEETING.

Members of the Illinois State Medical Society desiring to present papers at the 1934 Annual Meeting to be held in Springfield, May 15, 16, 17, 1934, should get in touch with the proper section officers as soon as possible.

Owing to the large membership of the Society, it is desirable to place members on the program each year who have not appeared in recent years.

The number of speakers at the annual meeting for each section is limited; consequently it is desired that all papers should be of interest to the members in general. Any member desiring to make a presentation at the annual meeting in any of the five scientific sections should write the Section Officers, giving the title of the paper, and an abstract of the same. If interesting case reports are desired to be given, tell briefly about the case of unusual interest, in making application for the place on the program.

It is the desire of all officers of the Sections to make the 1934 Annual Meeting program an outstanding one, and arrange it to the best advantage of all members. On Thursday morning, the last day of the meeting, it is planned to have a joint session of all five scientific sections, and present papers which will be of interest to all members regardless of their own special inclinations in practice.

Members desiring to make a presentation of either a paper or interesting case report, should get in touch with the proper Section Officers at an early date. The officers of each Section are herewith given.

### *Section on Medicine*

R. F. Herndon, Chairman, Springfield.

Don C. Sutton, Secretary, 30 North Michigan Blvd., Chicago.

### *Section on Surgery*

George W. Post, Chairman, 4010 West Madison Street, Chicago.

B. V. McClanahan, Secretary, Galesburg.

### *Section on Eye, Ear, Nose and Throat*

George S. Duntley, Chairman, Macomb.

O. B. Nugent, Secretary, 231 West Washington Street, Chicago.

### *Section on Public Health and Hygiene*

J. Howard Beard, Chairman, Urbana.



Lloyd Arnold, Secretary, 1817 West Polk Street, Chicago.

*Section on Radiology*

Robert F. Arens, Chairman, 2839 Ellis Avenue, Chicago.

F. Flynn, Secretary, Decatur.

---

### SOME OBSERVATIONS ON COPY

Many papers for the annual meeting will soon be in preparation. The following suggestions are submitted to promote uniformity and save time and labor on the part of authors, editors, printers, and others involved.

*Paper and style:* All copy should be submitted on standard size white paper, 8½x11 inches and double spaced. Page to be blank 1½ inch top and left side; 1 inch on bottom and right side. Copy to be original, not carbon.

*Title, author:* Title of paper, author's name and city address should appear in order stated at top of first page; author's street address at end of article.

The contents of paper should be in the best possible style and turned over to the official reporter with the distinct understanding that proof will be submitted to authors for the correction of *typographical errors only*. If changes from copy are desired they will be made at *author's expense*.

*Spelling:* Spelling as in Stedman's Medical Dictionary is considered standard. He does not recognize such barbarisms as oedema which he calls "variant," nor have we adopted the short form of though, thorough, etc., even if some lexicographers have.

*Bibliography:* References to literature should appear in numerical order in the text and the bibliography should be collected at end of article with the same numbered references. It is rarely necessary to write names of medical journals in full. (J. A. M. A.)

*Illustrations:* All cuts required for illustration are furnished at *author's expense*. Clear photographs and wash drawings can be reproduced in halftone cuts; line drawings in zinc etchings. Minimum size halftones cost about \$4 each; minimum etchings about \$3. *Negatives* of radiograms, either glass or film, are not acceptable; *prints* should be submitted.

If above suggestions are considered "finicky" they are based on the regular routine of compe-

tent offices. Compliance will save time, labor and expense for all concerned.

---

### DEATH OF DOCTOR ROYAL THARP

WHEREAS; Death has removed from our ranks one of our esteemed Colleagues and Brothers in Medicine, Dr. Royal Tharp, who died December 21, 1933, and

WHEREAS; we realize the Society, the profession, the family, and the community have suffered a great loss, be it

*Resolved* by the East St. Louis branch of the St. Clair County Medical Society that we deeply mourn this loss.

Dr. Royal Tharp was a valuable member of our Society, a physician who devoted his untiring efforts to his patients and a citizen of whom East St. Louis could be proud.

*Resolved;* that these resolutions be forwarded to his family as a token of respect to his memory. Be it further

*Resolved;* that these resolutions be placed on the minutes of the St. Clair County Medical Society, East St. Louis branch.

T. VAN BOYD,  
J. G. BEYKIRCH,  
A. M. ASZMANN,  
*Committee.*

---

### ROLE OF PHARMACOLOGY IN DEVELOPMENT OF IDEAL ANESTHESIA

C. D. Leake, San Francisco (*Journal A. M. A.*, Jan. 6, 1934), states that in the development of ideal anesthesia pharmacology must play a major part, particularly in the critical appraisal of the relative merits of new chemicals proposed for use in anesthesia. Significant advance may follow studies on the relation between chemical constitution and biologic action (biochemorphology). Such a possibility is already promised for inhalation anesthesia by observations on the cyclohydrocarbons, unsaturated ethers, and halogenated unsaturated hydrocarbons, and especially for preanesthetic hypnotics and local anesthetics by a variety of chemical types. Unfortunately, commercial considerations have largely dominated this field, so that proper pharmacologic data on new drugs, especially relating to toxicity and efficiency in comparison with related or commonly used agents, have not usually been furnished physicians to enable them to judge whether or not the new drugs are worthy of clinical use. Such data may advantageously be secured by cooperation with university medical laboratories. Loevenhart proposed a cooperative therapeutic institute for obtaining data of this sort under ideal conditions but unfortunately commercial houses were unwilling to establish and support it.

## MEDICAL ECONOMICS

At the request of the Council of the Illinois State Medical Society, the Committee on Medical Economics is starting this column to be devoted to subjects of interest to the medical profession of Illinois, in an economic way, as well as acting as a clearing house for the members. We want the members of the Illinois State Medical Society to feel free to write to the chairman of the committee, Dr. E. S. Hamilton at Kankakee, Illinois, for information on any phase of the economic question. He will forward the inquiry to the proper person so that the writer will receive authentic information on the desired subject, if the same is available. Each month some one or two questions of especial interest will receive special attention on this page, together with announcements of developments during the past month on subjects of economic interest. Be sure and include an addressed stamped envelope with your letter, so that there will be no mistake or delay in returning an answer.

The committee at the request of the Council has sent out during the past month, a questionnaire to all the physicians of four counties in the state, namely Pulaski, Franklin, Livingston and Winnebago. These counties were selected respectively as typical farming in southern Illinois, Mining, Farming in Central Illinois, and Industrial in Northern Illinois. Each doctor of these counties will receive a brief questionnaire, the object of which is to find out how great a change has occurred in the work done, the cash income and the net income derived between the years 1929 and 1933. Also an attempt will be made to find out how much charity work is being done. Charity work must consist of work for which no charge is made and must be differentiated from work charged for but uncollectible. A prompt reply to this questionnaire will be of great help to the committee in formulating a report for the annual meeting as well as having definite information to give to the Emergency Relief Commission as to the amount of charity work the physicians of Illinois do each year. The co-operation the committee receives will determine the degree of interests of the profession of Illinois in such subjects and accordingly whether or not the vast amount of work required to accomplish results is worth while.

The committee believes that this information

can be obtained at the nominal expense of printing and postage. This is very different from some other states such as Michigan where \$15,000 was expended in 1932 and 1933, with an additional \$10,000 for this year. An exhaustive report like the Michigan one is nice, but will not give us much more information than that the committee hopes to compile, but the overhead will be entirely eliminated in Illinois.

If the response to this initial questionnaire is sufficient to warrant a continuation of the method, a tentative plan is ready to obtain similar information from representative men all over the state. However, this will not be started until the first one has been completed.

Again, the committee wants to remind you to send your letters to the chairman of the committee, Dr. E. S. Hamilton at Kankakee, Illinois, with a self addressed stamped envelope enclosed. Also that all of the members in Pulaski, Franklin, Livingston and Winnebago counties send in the questionnaires completely and accurately filled out at once if they have not already done so.

E. S. HAMILTON,

*Chairman Medical Economics Committee.*

## Correspondence

### RADIUM SHIPMENT WORTH SIX THOUSAND DOLLARS IS LOST

Quincy, Illinois, January 29, 1934.

*To the Editor:*

On January 16, 1934, we sent fifty milligrams of radium in the form of four monel metal needles measuring 27x1.75 millimeters in diameter, each containing twelve and one-half milligrams of radium to Donald D. Stoner, M. D., Flatonia, Texas. This radium was delivered to the main post office in Quincy and dispatched special delivery insured mail going via St. Louis.

The package has never reached Flatonia and therefore has evidently become lost in the mail. We are therefore, anxious to give as much publicity as possible to the loss, thinking that it may aid in some manner to the discovery of just where the radium may be. We will appreciate, therefore, if you will give this loss some publicity in the columns of your journal, publishing this notice as promptly as possible.

QUINCY X-RAY & RADIUM  
LABORATORIES.

Harold Swanberg, M. D., Director.



## DOCTOR NELSON CORRECTS ERROR

To the Editor:

There is a glaring error in my article which appeared in the January, 1934, issue of the ILLINOIS MEDICAL JOURNAL, page 44, last sentence in the last paragraph in the first column. This reads: "They believe that the actual production of pollen is often greater than this, and conclude that hundreds of tons of ragweed pollen are suspended in the air over Chicago in a *single day* during the height of the season."

This should read: "They believe that the actual production of pollen is often greater than this, and conclude that hundreds of tons of ragweed pollen are suspended in the air over Chicago in a *single season*."

Very truly yours,

T. NELSON.

### THE GOVERNMENT'S PROGRAM IS A STEP IN THE DIRECTION OF SOCIALIZATION OF MEDICINE.

Recently the *Peoria Journal* under the title, "Aiding the Profession," said editorially:

"Turning to the relief of the professions, the Federal government is working out a program by which it hopes to aid physicians and surgeons by paying for the medical care of the unemployed.

"Doctors who view with apprehension the possibility of the socialization of medicine in the near future will get little comfort from the government's program. For it is a step in that direction.

"The government plans to establish clinics in the various counties. Doctors wishing to cooperate will register with the relief commission and will be called in rotation to care for the indigent who need medical relief.

"Each physician or surgeon will be permitted to charge a specified percentage of 'normal' fees, probably less than half and possibly as low as a third. His bill will be paid by the Federal government.

"Some objections to this plan are clearly apparent. Patients will have no voice in the selection of doctors. The clinics, being operated by political appointees, probably will not pay much attention to the specialized ability of the doctors. The entire standard of medical care is likely to decline.

"Moreover, trained professional men are being asked to cut their prices. If the government can buy the services of a physician at one-third of the present day cost, paying patients would be justified in asking a similar reduction. If the doctors are worth hiring at all, they should be worth standard rates for the service in their communities.

"The government sets an ominous precedent in asking professional men to reduce their fees, while paying laborers more than the union scale in many cases."

### GOOD WATER

The family doctor is neither an engineer nor a chemist, but he is vitally interested in what others are doing for public health. The subject of sewage disposal is rarely encountered in our professional discussions, yet it is of vital importance to our health and welfare. Every city and village is responsible for the maintenance of proper sanitary conditions within the area of its jurisdiction. It should, therefore, furnish general supervision over the operation and maintenance of all local installations for the disposal or treatment of polluting wastes in order that effective results may at all times be secured.

In small communities sewage disposal is grievously primitive, insanitary and definitely dangerous to public health, and in rural districts sanitation is often unspeakable. Each year during the spring rains and the rising rivers wide areas are inundated, privies and stables are flooded and the filth is washed out upon walks and roads over which people must travel and work. This annual broadcasting of disease goes on in many districts, and with the increasing popularity of swimming pools, tourists' camps and recreation centers it becomes a public menace which demands adequate and prompt collection and disposal of sewage everywhere.

Emptying untreated wastes into the river (water carriage) relieves the local community, but it ravages and destroys miles of natural river beauty, replaces clear, sparkling streams with black, foul smelling, scum covered open sewers, the banks of which are filled with dirty sludge from which putrid gases escape. The normal clean stream plant and fish life is replaced with gray growths and slime. Typhoid fever and



dysentery germs multiply here, and people who camp beside, bathe in, or otherwise consume its waters are subject to epidemic disease, and, furthermore, our milk supply, upon which we so much depend is jeopardized when the cattle pasture along its banks.

There are less than 200 municipal sewage treatment plants in Illinois, thus evidencing that we do not yet realize the danger in our midst. If our wastes are treated so as to remove the solid and dissolved matter, and destroy the virulent bacteria it may then be discharged into a flowing stream without causing sludge covered banks emitting foul effluvia to assail our nostrils and endanger our health and lives. It is therefore imperative that every doctor actively interest himself and herself in adequate sewage disposal that this ever present health hazard may be removed. Don't be "asleep at the switch." If your community is discharging its untreated sewage into a river apply the "Golden rule" to your neighbor down stream and work for a sewage reduction plant and a water supply that is not only safe to drink but clear, cool and attractive to the eye and taste. Not one so polluted that fish commit suicide by entering it. Pure food, pure water, and pure air are essentials. The food and air may come from great distances, but the water (neglecting rain water) must come from some nearby source, frequently so near that it receives the pollution from the cities and industries. We expect and demand that water be given us that is pure and palatable. Nothing short of this should be considered as the solution of the problem.

Public Policy Committee,  
Illinois State Medical Society.

EMERGENCY MEDICAL CARE AVAILABLE  
UNDER ILLINOIS EMERGENCY RELIEF  
COMMISSION  
ILLINOIS PLAN

For the emergency medical care of the recipients of unemployment relief by funds made available by the Illinois Emergency Relief Commission.

SUMMARY OF RULES AND REGULATIONS

1. "The Federal Emergency Relief Administration by its Rules and Regulations governing medical care provided in the home to recipients of Unemployment Relief, states that the conservation and maintenance of the public health is a primary function of Government and sets forth certain considerations by which to discharge this function while providing adequate medical

care to those in need and at the same time conserving available public funds.

2. "These regulations emphasize that Federal Relief Funds may be used for payment of medical attendance and medical supplies for those families that are receiving relief and while stating that Federal funds may not be used for payment of hospital bills nor general institutional care, it says that state or local funds might be so used.

3. "Medical care for the unemployed, under these regulations, is to be furnished under a uniform policy formulated by the relief administration in consultation with the organized local and/or State Medical profession. This policy recognizes within legal and economic limitations, the traditional relationships existing between the patient and physician, and provides that members of this profession furnish to indigent persons the same quality of service given to a private patient.

4. "The policy contemplates making more adequate the existing medical facilities and implies continuance of the use of hospitals, clinics and services already established and paid for by local, State, Federal or private funds in accordance with regulations, statutes, ordinances or charter provisions.

5. "Under this program medical care is to be provided on the basis of:

1. Written authorization on regular relief blanks.
2. Specified number of visits in each case for acute and chronic illnesses.
3. Specific service in obstetrical cases.
4. Utilizing the services of a competent, graduate nurse, either on the staff of the County Committee or through cooperation or loan, to make investigations relative to the illness or disability of the patient and to assist in carrying out physicians' instructions.
5. Limiting any service to meet conditions which are causing acute suffering; interfering with earning capacity; endangering life or threatening some permanent new handicap that is preventable through medical care.
6. Payment of fees (when necessary to be paid) from relief funds at a flat rate; each visit; each confinement; all of which are to be provided at a reduction below the usual minimum fee, with an agreed maximum and a differential between home and office visits. All bills are to be presented under specific instructions.
7. Providing drugs that are to be the less expensive variety, assuming they have the same therapeutic effect and restricted to be approved formularies and are to include no patent medicines. The prescribing of only such drugs used in the care of indigents which are contained in the United States Pharmacopeia and the National Formulary.
8. Making each local Relief Administration responsible for the adoption of these programs as well as for their formulation within the provisions of the rules and regulations, and the State Emergency Relief Administration is to insure, by giving or withholding approval, that all parts of the program

are in harmony. Advisory Committees are to be appointed by the Presidents of State and Local medical organizations. The Committees are to assist in formulation of adequate programs, the adoption of which shall be a responsibility of the Relief Administration.

9. The program which follows is intended to cover only the medical relationships, except where pharmaceuticals and hospitalization are a necessary part of the physician's services. Separate plans will be developed and announced later respecting dentistry, nursing, hospitalization and pharmaceuticals.

#### PROGRAM FOR MEDICAL CARE

"This program, providing for emergency medical care of the unemployed indigent, shall be in effect in the State of Illinois for 90 days after its approval by the medical organizations and the Executive Secretary of the Illinois Emergency Relief Commission, but may be continued thereafter. It shall be subject to revision within this period by the Illinois Emergency Relief Commission in consultation with the Advisory Committee from the Illinois State Medical Society. Such revisions shall be understood to automatically revise in the same particulars whatever understandings will then exist between County or local medical societies and local relief committees.

#### ORGANIZATION OF ADVISORY COMMITTEES

1. "Under authority of these Federal regulations, the Illinois State Medical Society has appointed a committee which has expressed to the Illinois Emergency Relief Commission its complete accord with the regulations, and has further suggested a fee schedule and has proposed to each county medical society the formation of an advisory committee on medical care.

#### PROPOSED ADMINISTRATIVE PROGRAM

1. "Several basic considerations underlie the development of this program—among these are, permanent value to the Community, immediate efficiency in distribution of medical relief and care, variations between communities and counties and the securing of the highest quality of medical service with the funds available.

2. "To develop and operate a sound medical care program requires, under these and other considerations, clearly phrased, reasonably flexible, but quite specific regulations. Bulletins covering the procedure, regulations and technique will follow from time to time. This service, organized as a separate department known as Medical Relief Service, with a department director, shall be under the direction of the Illinois Emergency Relief Commission and directly responsible to the Director of Social Service. Authority for operation of this service shall, within any county, be vested in the County Emergency Relief Committee and shall be expressed through a supervising social worker on the staff of that Committee.

#### GENERAL POLICIES

"The following general types of medical care should be considered by the County and local Committees:

- A. Care of the acutely sick in
  - (1) their own homes
  - (2) hospitals

- (3) ambulant sick who are acutely ill, either in their own homes or doctor's offices, or in clinics

#### B. Obstetrical and maternity care, including

- (1) pre-natal care
- (2) post-natal care

#### C. Care of the chronic sick in

- (1) their own homes
- (2) clinics
- (3) office of physicians

#### D. Care of the tuberculous in

- (1) their own homes
- (2) clinics
- (3) office of physicians

- E. Preventive medical services, which are, of course, the function of the regularly constituted governmental authorities and of volunteer agencies as well as the medical profession.

#### SPECIAL POLICIES

##### COUNTY AND TOWNSHIP PHYSICIANS

1. "The types of cases usually referred to physicians who are paid by or engaged for county or township or local authority may continue to be so referred, provided the medical society committee and representatives of the Commission feel that such physicians are competent and able, from the point of view of facilities and number of patients, adequately to meet the problem.

##### ELIGIBILITY OF PATIENTS

2. "No cases should be referred for paid medical care that are not at that time on the relief lists, unless investigation discloses eligibility for medical relief.

##### FAMILY PHYSICIAN CREDIT

3. "With respect to other patients, efforts should be made:

- (1) to refer such patients to the family physician for free treatment, or for credit given by such family physician, provided the physician agrees to give the necessary care.

- (2) In the event that credit for free treatment cannot be granted by the family physician, then the patient may be referred on a fee basis and still continue with his own physician, provided that such physician has elected or does elect to participate in this program. In other cases, the patient may choose a physician, or have one selected for him, from the list hereinafter indicated, who will give service.

##### PHYSICIANS ON LIST

4. "In most counties of Illinois, most practicing physicians are members of the County Medical Society. However, participation in this program shall be open to all physicians licensed to practice medicine in the State, subject to local statutory limitations and the general policy of working out with the organized medical profession a uniform plan to provide medical care for indigent persons.

##### COMPLAINTS

5. "When reports of incompetency or abuse of privi-



lege are registered against physicians working under this program, they shall be given to the local or County Advisory Committee which may refer the matter to the State Advisory Committee for thorough investigation. If the charges are sustained, after this investigation, the Committee will submit its report to the Illinois Relief Commission together with the recommendation of the Committee.

#### WHO SHALL REFER

6. "All calls requesting physicians to attend the sick shall be made to the local person responsible for the medical care program, and physicians shall be notified by such person or his representative. Where a patient does not choose a physician at the time a physician is requested, assignments from the list are to be made by the relief service. No limited number of physicians should secure an excessive amount of the work.

#### PHYSICIANS IN HOSPITALS AND CLINICS

7. "Except under extraordinary circumstances, and in cases of hospitalization for obstetrical care as provided in the paragraph on obstetrical service, there shall be no compensation paid to physicians or surgeons for work done in clinics or in hospitals. Whatever fees are paid, should be, as hereinafter described, paid to the clinic or hospital.

#### REPORTS TO MEDICAL ADVISORY COMMITTEE

8. "In order that the Medical Advisory Committee of the Illinois State Medical Society may function to the best advantage, a list of physicians in each county who are working under this program, with the approximate amount of work done by each physician during the month, shall be furnished each month by the Relief Committee to the Medical Advisory Committee, it being understood that the amount of work done by any physician may rest primarily upon the family physician principle.

#### DRUGS AND DIETS

1. "All prescriptions for necessary drugs not furnished by the attending physician shall be filled from the U. S. Pharmacopeia, National Formulary or from a reputable Hospital Formulary. Payments for proprietary or patent remedies shall not be approved.

2. "Physicians should use the less expensive drugs when possible, and if expensive drugs are considered essential, a written order for such drugs should be obtained.

3. "A standard or local formulary of acceptable drugs to be used will be submitted to each county or local medical society committee, for the guidance of all physicians working under this program.

4. "A list of special diets to be used, standardized to conform to the food lists of the Illinois Emergency Relief Commission, will be submitted to each county or local medical society committee for the guidance of all physicians working under this plan.

#### VISITS BY PHYSICIANS

##### NUMBER OF VISITS

1. "With the exceptions noted hereinafter, physicians shall not bill the Commission in cases of acute illness for more than one follow-up visit; unless they

have secured approval of the person in charge of medical work for additional visits. It is obvious that in the case of certain children's diseases, such as measles, scarlet fever, etc., it might be necessary for quite a number of additional visits to be made. It is also obvious that serious acute illness, such as the pneumonias, daily or even more frequent visits might be required. These cases should be cleared with the person in charge of medical work and approval sought by the physician for such visits as he may have in mind, before the second re-visit is made and bills are submitted.

2. "The above should apply both to home visits and to patients visiting physicians at their offices.

#### PHYSICIAN'S FEES

3. "Fees paid to physicians shall be not to exceed \$1.50 for home visits and not to exceed \$1.00 for office visits. Physicians attending patients living outside of the corporate limits of the town in which the physician maintains his office shall be reimbursed for mileage at the rate of not to exceed 25 cents a mile one way, for the distance from the corporate town or city limits. It is understood that the fee is not paid with reference to the quality or the value of the service rendered, but it is primarily on the basis of what the physician might expect to receive, on the average, from persons of very low income or persons otherwise dependent.

#### AUTHORIZATION FOR MEDICAL CARE

##### OBSTETRICAL SERVICE

1. "Authorization for giving obstetrical care in the home shall include the necessary pre-natal visits, delivery in the home, and necessary post-natal care. In those cases where the attending physician in his professional judgment believes home care hazardous authorization for hospital care may be given by the local relief committee through the person in charge of medical work.

##### PERIOD OF CARE

2. "In such instances, the physician shall be paid his fee, as herein provided, and the hospital shall be reimbursed at an agreed rate not to exceed \$2.00 per day for a period of no longer than 8 days. Thereafter, any further reimbursement to the hospital shall be only upon approval by the local person in charge of the medical program.

#### PHYSICIAN'S FEES

3. "The fee for complete obstetrical services, as mentioned above, shall be not to exceed \$20.00 to the attending physician, not including the hospital. It is expected that there will be no imposition on the part of the attending physician in connection with the hospitalization of these cases, and in the event that there is a just complaint on the part of the county relief committees, the case will be investigated by the County Medical Society's Advisory Committee, when requested by the relief administrator or county relief committee.

#### WRITTEN AUTHORIZATION

4. "All authorizations for medical care shall be issued in writing by the local relief administrator, except that in an emergency, telephone authorization shall be immediately followed by a written order. When medi-



cal supplies or nursing is necessary the physician must submit his request for such to the relief administrator by telephone, which must be followed immediately by a request in writing, and receive a written authorization.

#### EMERGENCY CALLS

5. "In case of urgent emergency, the physician may, if unable to get immediate authorization for necessary care, make one call which will be approved, if the call is reported on the following day, and then make his written request for authorization for subsequent attention to the patient.

#### LIMITING VISITS

6. "Medical care for prolonged illnesses shall be authorized on an individual basis and visits must be limited as much as possible, without neglecting the welfare of the patient. Any question as to the possible abuse of this authorization shall be submitted by the local relief official for investigation by the County Medical Society's Advisory Committee. In all cases of acute illness, and minor ailments, the number of home visits must be limited, without neglecting the welfare of the patient. It is recommended, when feasible and necessary, that the nurse of the County Emergency Relief Committee's staff make an investigation before authorization for home care is issued, except in emergency cases.

#### EMERGENCY SURGERY

7. "Emergency surgical care in the office or home shall be authorized by the local person in charge of medical relief and the fee for services shall be a matter of agreement between the attending physician and the Relief Committee, but it is understood that the fee shall not be in excess of 50% of the regular minimum fee for such service. Emergency X-Ray examinations, or necessary laboratory services, may be authorized on a similar basis. Only necessary or emergency surgery will be authorized under this program.

#### APPLIANCES

1. "Medical appliances, i. e., glasses, artificial eyes, trusses, braces, belts, artificial limbs, when prescribed by a physician regularly serving an unemployment relief client, may be purchased with the approval of the County or local relief administration. When price and quality of appliances available locally are equal or better than that quoted by the Central Purchasing Department of the Illinois Emergency Relief Commission, the latter may authorize such purchases locally.

#### HOSPITALS

1. "Hospitals may be reimbursed from state or local funds at an agreed rate, not to exceed \$2.00 per day per patient. In no instance, however, should the hospital receive more payment for its services than the approximate operating deficit of the institution. While non-profit hospitals, and where possible government institutions shall be given preference, private hospitals may be used when necessary. Patients referred for hospital care shall be confined to obstetrical and surgical cases and cases of acute illnesses.

#### PART-PAY DISPENSARIES

1. "Approved dispensaries established for the pur-

pose of providing part-pay medical care may be reimbursed from State or local funds at an agreed rate not to exceed 50 cents per visit per patient. In no instance, however, should the dispensary receive more payment for its services than the approximate operating deficit of the institution. While non-profit dispensaries and, where possible, governmental institutions shall be given preference, private hospitals may be used when necessary.

2. "Authorization must be given in the same manner as prescribed for physicians.

"The above program conforms with Federal Emergency Relief Administration rules and regulations No. 7, thereby permitting all licensed physicians in the State of Illinois, who so desire, to register under this plan.

"It has been endorsed by the council of the Illinois State Medical Society for its application to the entire state, and ratified by each component county society. Its endorsement for application by each official county society must be received from the Illinois Emergency Relief Commission."

#### YOUR INCOME TAX REPORT—1934

The following data is published in the *Journal of the A. M. A.* is a clear outline of the income tax laws as it applies to medical men:

#### THE PHYSICIAN'S INCOME TAX—1934

The following instructions are based on the Revenue Act of 1932. That act, unless the congress now in session modifies it, will govern the collection of federal income taxes for the tax year 1933. It is believed likely, however, that Congress will modify the present law. What those modifications will be, if there are any, and to what extent they will call for a procedure materially different from that required by the Revenue Act of 1932, no one can foretell. Two courses are open to the physician. He may file his income tax return at once, for 1933, on the basis of the Revenue Act of 1932, and then, later, if new legislation so requires, he may make a supplemental return. If he prefers, however, he can wait until toward the close of the period allowed for filing returns, which is March 15, and then file his return in accordance with the legislation then in force. The choice between these two plans had best be determined by each physician to suit his own convenience.

The taxpayer who is required to make a return must do so on or before March 15, unless an extension of time for filing the return has been granted. For cause shown, the collector of internal revenue for the district in which the taxpayer files his return may grant such an extension, on application filed with him by the taxpayer. This application must contain a full recital of the causes for the delay. Failure to make a return may subject the taxpayer to a penalty of 25 per cent of the amount of the tax due.

The normal rate of tax on individual citizens or residents of the United States, under the Revenue Act of 1932, is 4 per cent on the first \$4,000 of net income in

excess of the exemptions and credits, and 8 per cent on the remainder.

#### WHO MUST FILE RETURNS

1. Returns must be filed by every person having a gross income of \$5,000 or more, regardless of the amount of his net income or his marital status. If the aggregate gross income of husband and wife, living together, was \$5,000 or more, they must file a joint return or separate returns, regardless of the amounts of their joint or individual net incomes.

2. If gross income was less than \$5,000, returns must be filed (a) by every unmarried person, and by every person married but not living with husband or wife, whose net income was \$1,000 or more, and (b) by every married person, living with husband or wife, whose net income was \$2,500 or more. If the aggregate net income of husband and wife, living together, was \$2,500 or more, each may make a return or the two may unite in a joint return.

If the status of a taxpayer, so far as it affects the personal exemption or credit for dependents, changes during the year, the personal exemption and credit must be apportioned, under rules and regulations prescribed by the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury, in accordance with the number of months before and after such change. For the purpose of such apportionment a fractional part of a month should be disregarded unless it amounts to more than half a month, in which case it is considered as a month.

As a matter of courtesy only, blanks for return are sent to taxpayers by the collectors of internal revenue, without request. Failure to receive a blank does not excuse any one from making a return; the taxpayer should obtain one from the local collector of internal revenue.

The following discussion covers matters relating specifically to the physician. Full information concerning questions of general interest may be obtained from the official return blank or from the collectors of internal revenue.

#### GROSS AND NET INCOMES: WHAT THEY ARE

*Gross Income.*—A physician's gross income is the total amount of money received by him during the year from professional work, regardless of the time when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as compensation and profits from other sources.

*Net Income.*—Certain professional expenses and the expenses of carrying on any enterprise in which the physician may be engaged for gain may be subtracted as "deductions" from the gross income, to determine the net income on which the tax is to be paid. An "exemption" is allowed, the amount depending on the taxpayer's marital status during the tax year, as stated before. These matters are fully covered in the instructions on the tax return blanks.

#### REDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct all current expenses necessary in carrying on his practice. The following

statement shows what such deductible expenses are and how they are to be computed:

*Office Rent.*—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent of such house or apartment as professional expense; to entitle him to such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

*Office Maintenance.*—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants, are deductible.

*Supplies.*—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted; but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

*Equipment.*—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out.

Payments for equipment or nonexpendable property for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded as equipment, and the purchase price is therefore not deductible.

Although payments for equipment or nonexpendable articles cannot be deducted, yet from year to year there may be charged off against them reasonable amounts as depreciation. The amounts so charged off should be sufficient only to cover the lessened value of such property through obsolescence, ordinary wear and tear, or accidental injury. If improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, claim should not be made for depreciation.

A hard and fast rule cannot be laid down as to the amount deductible each year as depreciation. Everything depends on the nature and extent of the property and of the use to which it is put. Five per cent a year has been suggested as a fair amount for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The proper allowance for depreciation of any property is



that amount which should be set aside for the tax year in accordance with a reasonably consistent plan, not necessarily at a uniform rate, whereby the aggregate of the amounts so set aside, plus the salvage value, will at the end of the useful life of the property in the business equal the purchase price of the property or, if purchased before March, 1913, its estimated value as of that date or its original cost, whichever may be the greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Physicians who, from year to year, claim deductions for depreciation on nonexpendable property will do well to make annual inventories, as of January 1, each year.

*Medical Dues.*—Dues paid to societies of a strictly professional character are deductible. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

*Postgraduate Study.*—The Commissioner of Internal Revenue holds that the expense of postgraduate study is not deductible.

*Traveling Expenses.*—Traveling expenses, including amounts paid for transportation, meals and lodging, necessarily incurred in professional visits to patients and in attending medical meetings for a professional purpose, are deductible.

#### AUTOMOBILE

Payment for an automobile is a payment for permanent equipment, and is not deductible. The cost of operation and repair, and loss through depreciation, are deductible. The cost of operation and repair includes the cost of gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc.

Deductible loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession of the present taxpayer.

If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, or used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses; he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood.

What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

#### MISCELLANEOUS

*Laboratory Expenses.*—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional ex-

penses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

*Losses by Fire, etc.*—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent to which it has not been made good by repair and the cost of repair claimed as a deduction.

*Insurance Premiums.*—Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

*Expense in Defending Malpractice Suits.*—Expenses incurred in the defense of a suit for malpractice are deductible as business expense.

*Sale of Spectacles.*—Oculists who furnish spectacles, etc., may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.

#### ANNUAL ASSEMBLY OF THE SOUTHEASTERN SURGICAL CONGRESS

The Southeastern Surgical Congress will hold its fifth annual assembly in Nashville, Tennessee, March 5, 6 and 7. The Andrew Jackson Hotel will be hotel headquarters and the lectures and exhibits will be in the War Memorial Building.

The following doctors will occupy places on the program: Fred H. Albee, New York; W. Wayne Babcock, Philadelphia; S. O. Black, Spartanburg; Vilray P. Blair, St. Louis; Frank K. Boland, Atlanta; J. B. Brown, St. Louis; D. B. Cobb, Goldsboro, N. C.; George W. Crile, Cleveland; T. C. Davison, Atlanta; John F. Erdman, New York; P. G. Flothow, Seattle; Seale Harris, Birmingham; M. S. Henderson, Rochester, Minn.; Arthur E. Hertzler, Halstead, Kansas; Chevalier Jackson, Philadelphia; Walter C. Jones, Miami; Dean Lewis, Baltimore; Joseph F. McCarthy, New York; C. Jeff Miller, New Orleans; A. J. Mooney, Statesboro, Ga.; John J. Moorhead, New York; Edward T. Newell, Chattanooga; Fred Rankin, Lexington, Ky.; Paul H. Ringer, Asheville; Stewart Roberts, Atlanta; George H. Semken, New York; Phil C. Schreier, Memphis; Arthur M. Shipley, Baltimore; H. E. Simon, Birmingham; A. O. Singleton, Galveston; J. R. Young, Anderson, S. C.; Waitman F. Zinn, Baltimore.

For information write Dr. B. T. Beasley, 1019 Doctors Building, Atlanta.



## WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

On Saturday, January 20, a meeting of the Board of the Woman's Auxiliary to the Illinois State Medical Society was held at the Stevens Hotel, Chicago, at 10:15 o'clock, with Mrs. Solomon Jones, President, presiding. Twenty-four members responded to the roll-call. The minutes and the reports of the Treasurer and Corresponding Secretary were read, accepted and placed on file.

The Councilors gave very flattering reports of the interest shown by the physicians throughout the state in the Woman's Auxiliary and of our assistance to the medical profession. It was encouraging to see so many down state presidents, officers and councilors attending this meeting. Their reports and comments indicate a growing appreciation of the work of the Auxiliary.

Cook County Program Chairman, Mrs. Nelson M. Percy, gave a report of the year's programs and announced a very interesting laity lecture to be given January 31 at 2:00 o'clock by Doctor Clarence C. Little of New York, on the subject of "WHAT YOU CAN DO FOR CANCER CONTROL." This lecture will be given at Murphy Memorial Hall of the American College of Surgeons.

The meeting adjourned at 1:00 o'clock for luncheon in the Boulevard Dining Room of the Stevens Hotel with Miss Jean McArthur and Mrs. Esther Fraser of the Illinois State and Chicago Medical Societies as guests.

At 2:00 o'clock the meeting reconvened. Down state auxiliaries reported many splendid programs given by them covering numerous medical topics. Our State Hygeia Chairman, Mrs. H. H. Hurd, reported that Illinois had completed its quota of subscriptions to this health magazine. Mrs. J. P. Simonds, Chairman of Press and Publicity, reported that the ILLINOIS MEDICAL JOURNAL had carried monthly reports of all activities of the Auxiliaries and that copies of these articles had been sent to Mrs. Robert Fitzgerald, National Press Chairman.

The Board recommended that we as an organization cooperate with the State Department of Public Health in promoting "Health Week"; that we as an organization protest and cancel our individual subscription to the Ladies Home Journal because of the article appearing in the November issue of that Journal derogatory to physicians; that we as physicians' wives take an active interest in the welfare work of our respective clubs, keeping ourselves informed as to medical ethics by reading the medical journals.

Mrs. W. R. Cubbins, State Public Relations Chairman, suggested that the Cook County auxiliaries endorse a letter to be written to Mr. W. C. Bogan, Superintendent of Schools, requesting that the Household Arts and Kindergarten teachers in Spaulding School for Crippled Children be reinstated.

Respectfully submitted,

(Mrs. A. H.) SOPHIE J. BRUMBACK,  
Third District Councilor.

## EDUCATIONAL COMMITTEE

January, 1934

Jean McArthur, Secretary

### SPEAKERS' BUREAU:

6,500—Attended the 52 health programs arranged by the Committee during the month of January. The following groups requested these speakers from the Illinois State Medical Society: Rotary Clubs, Y. M. C. A., Y. W. C. A., Districts of the Illinois Federation of Women's Clubs, Colleges, University Clubs, Women's Clubs, Parent Teacher Associations, Nurses, Chemists Clubs, Junior Colleges, Parent Education Study Clubs, Junior and Senior High Schools, Young Mothers' Clubs.

Lectures on Cancer and a showing of the Canti film have been offered the colleges of Illinois. Such programs were arranged for Greenville College and Shurtleff College in January.

The Committee is cooperating with the Illinois Federation of Women's Clubs in arranging programs for the Health Institutes sponsored in the various districts. These programs have emphasized the Importance of Pre-Natal Care, the Periodic Health Examination, Mental Health.

R. R. Ferguson, Chairman of the Committee, was invited to give a talk on Medical Economics before the Woman's Auxiliary of the Chicago Medical Society.

Comments on talks given by physicians indicate they are filling a need in the State: "Talk very interesting and instructive. It was greatly enjoyed by all who heard it." "Most Instructive and Interesting." "Talk was very interesting, instructive and helpful, seasoned with commonsense and a sympathetic understanding. Many favorable comments, quite unsolicited, have been made. We are very grateful to you for this program." "Splendid and interesting talk."

### SCIENTIFIC SERVICE:

14—Scientific programs on the following subjects were arranged for medical groups in counties Will-Grundy, Scott (Davenport, Iowa), Rock Island, Union, Kankakee, Iroquois, Jackson, Livingston:

Medical Economics	Obstetrics
Heart Disease	Pernicious Anemia
Pneumonia	Diseases of the Nails
Rheumatic Fever	The Gall Bladder
Fractures of the Lower Extremities	Importance of Pre-natal Care
The Asthmatic Patient	Pediatrics

These papers were presented by Doctors Lee Frech, S. J. Taub, LeRoy Sloan, Aaron Arkin, C. C. Maher, David S. Hillis, Frank Smithies, Cleveland J. White, Bernard Fantus, Edmund Andrews, Philip Kreuscher, Charles E. Galloway, Mark Jampolis, Edward J. Stieglitz.

### SERVICE TO MEDICAL SOCIETIES AND OTHER GROUPS:

364—Notices prepared and sent for LaSalle County Medical Society.

- 27—Letters sent out for Randolph County.  
 132—Notices mimeographed and mailed for Livingston County.  
 342—Invitations mimeographed and mailed for Perry County.  
 270—Notices mimeographed for Woman's Auxiliary, Chicago.  
 431—Announcements mimeographed for special health programs of the Federation of Women's Clubs.  
 650—Postal card announcements of Dr. C. C. Little's Cancer lecture mimeographed for the Woman's Auxiliary.  
 Special letters and questionnaires typed for Historian of the Woman's Auxiliary of the Illinois State Medical Society.  
 Radio talks furnished Rock Island County Medical Society.  
 35—Package libraries furnished doctors and laity.  
 Arrangements made to furnish Central Branch Y. W. C. A., Chicago, appropriate health articles for posting on Health Education Bulletin Board. Material copied and mimeographed for Special Committee on Emergency Relief.

#### PRESS SERVICE:

- 451—Regular press service.  
 21—Monthly press service.  
 119—Newspapers, re meeting LaSalle County Medical Society.  
 48—Newspapers, re meeting Madison County Medical Society.  
 29—Community newspapers, re meetings Branches of Chicago Medical Society.  
 4—Chicago Association of Commerce, Chicago Medical Society.  
 24—Notices to Chicago Metropolitan papers of Chicago Medical Society.  
 18—Newspaper releases Woman's Auxiliary laity meeting.

#### 714—TOTAL RELEASES FOR THE MONTH OF JANUARY.

Articles written and approved for release on "Measles—A Serious Disease in Young Children," "Amebic Dysentery," "Scarlet Fever Prevalent."

#### RADIO:

- 23—Radio programs from three Chicago stations, WGN, WJJD, WAAF. The following doctors participated in the programs:  
 E. L. Cornell—Prenatal Care.  
 M. R. Guttman—Abscess of the Ear.  
 H. G. Ohls—Pneumonia (Prepared by Leroy H. Sloan).  
 M. P. Borovsky—Common Errors in the Care of Infants.  
 Emil G. Vrtiak—Prevalence and Cause of Arthritis.  
 C. H. Anderson (Moline)—Preparing the Child for School.  
 Francis L. Lederer—Nose and Throat Conditions in Children.  
 E. L. Chainski—Deafness, Its Prevention in Children.

- Louis W. Sauer—Whooping Cough Prevention.  
 Charles M. Jacobs—The Crippled Child.  
 Harry E. Hickman—Diabetes.  
 Alex A. Hershfield—A Penalty of Age.  
 Carl F. Schaub—Strabismus.  
 T. J. Conley, Jr.—Tired People.  
 Jacob D. Mayer—Constipation.  
 J. M. Mora—Varicose Veins.  
 L. D. Snorf—Importance of the Vitamins in Diet.  
 Laurence E. Hines—Heart Disease After Middle Age.  
 Ethel M. Fikany—Obesity and Health.  
 Arrie Bamberger—Rabbit Fever.  
 Gerard N. Krost—Home Care of the Sick Child.  
 S. C. Henn—My Child Won't Eat.  
 M. Edward Healy—Body Weight.

#### ANNUAL REPORT OF THE VETERANS' ADMINISTRATION

The A. M. A. Journal, January 27, 1934, submits the following report on the Veterans' administration:

#### ANNUAL REPORT OF THE VETERANS' ADMINISTRATION

The Administrator of Veterans' Affairs, Frank T. Hines, submitted to the Congress of the United States, January 3, the Annual Report of the Veterans' Administration for the fiscal year ended June 30, 1933. The hospital load of the Veterans' Administration on that date was 33,795, a decrease of 10,046, or about 23 per cent, in the number on the last day of the previous fiscal year. Of the total load, 16,590 were World War veterans receiving treatment for disability not the result of service, 2,787 were veterans of wars prior to the World War, and 201 were employees of the Civilian Conservation Corps. Sixteen per cent of the patients then present in hospitals had tuberculosis, 60 per cent neuropsychiatric diseases, and 24 per cent general medical and surgical conditions. This is a marked change since June, 1923, when 41 per cent of the veterans were under treatment for tuberculosis, 39 per cent for neuropsychiatric diseases and 20 per cent for general conditions.

Since March 3, 1919, there have been 1,277,624 admissions to hospitals, of which 136,626 were made during the last fiscal year. Since June 7, 1924, when hospitalization was first authorized for the veterans of all wars without regard to the origin of their disabilities, 531,715, or 62 per cent of all admissions, had been for the treatment of non-service-connected disabilities. About three fourths of the admissions in the last fiscal year were for nonservice disabilities. During this year 71,139, or 52.07 per cent of the total, were first admissions, while 62,112, or 45.46 per cent, were readmissions.

About 179,400 patients were under hospitalization during the year, of whom 145,937 were discharged after an average of 96.5 inpatient days; 86 per cent of these remained until the completion of the hospitalization episode. During the year, 7,375 patients died in hospitals and 60 per cent were among patients under treatment for general diseases, 28 per cent for pulmonary tubercu-



losis, and 12 per cent for neuropsychiatric diseases. Eleven per cent of the pulmonary tuberculosis cases resulted in death, 4 per cent of the general, and 2 per cent of the neuropsychiatric. This decrease was the direct result of the act of Congress, approved March 20, 1933, which denied the benefit of hospitalization to many veterans who had been eligible under prior laws. This law also resulted in a decrease of 8 per cent in the number of admissions to hospitals over the number admitted in the previous fiscal year.

The Veterans' Administration was operating, June 30, 1933, hospital facilities at seventy-one locations in forty-three states and the District of Columbia, providing a total of 40,213 beds, or an increase of 3,641 beds over those available at the end of the previous year, practically all of which increase was for the care of psychotic and general medical and surgical patients. Seven newly constructed hospitals were opened during the year; namely, at Tuscaloosa, Ala.; Albuquerque, N. M.; Canandaigua, N. Y.; Columbia, S. C.; Salt Lake City; Huntington, W. Va., and St. Petersburg, Fla. Additional hospital beds were acquired through new construction or alterations at a number of other locations. Three new facilities were completed this year but were not opened; namely, at Wichita, Kan. (162 beds); Cheyenne, Wyo. (108 beds), and Roseburg, Ore. (191 hospital and 350 barrack beds). During the year three facilities were closed; namely, at Philadelphia (416 beds); Kansas City, Mo. (200 beds), and Dwight, Ill. (225 beds). With the closing at Kansas City, all facilities controlled by the Veterans' Administration are government owned. The Congress of the United States has appropriated since February, 1919, the sum of \$119,952,000 for new hospitals, domiciliary and outpatient dispensary facilities, and in addition there has been expended since 1923 over \$16,800,000 from regular fiscal funds for improvements and extensions to veterans' facilities. At the close of the fiscal year there were under construction the following major projects: (a) 275 new hospital beds at Augusta, Maine; (b) a 297-bed hospital at Batavia, N. Y.; (c) a 518-bed home at Biloxi, Miss.; (d) 188 additional hospital beds at Coatesville, Pa.; (e) a 300-bed hospital at Des Moines, Iowa; (f) a 258-bed hospital at Fayetteville, Ark.; (g) 199 additional hospital beds at Fort Lyon, Colorado; (h) 748 new hospital beds at Leavenworth, Kan.; (i) 56 additional hospital beds at Rutland Heights, Mass.; (j) a 334-bed hospital at San Francisco; (k) 104 new hospital beds at Tuscaloosa, Ala. The construction under way at Leavenworth, Kan., will result in a net increase of 383 beds, and at Tuscaloosa, Ala., 77 beds. The daily cost of operation per patient for hospitals used principally for the treatment of tuberculosis is \$4.61 (a reduction of 22 cents over last year); for hospitals for the treatment of neuropsychiatric diseases, \$2.12 (a decrease of 33 cents); for all general hospitals, \$3.48, and for all types of hospitals, \$2.99.

The field facilities of the Veterans' Administration made 1,350,452 physical examinations during the year for outpatient purposes, a decrease of 707,260 of the number made during the previous year. Of this num-

ber, 28,291 were dental examinations. About 94 per cent of the medical examinations and 81 per cent of the dental examinations were made by physicians on a salary basis. The medical and dental treatments rendered by physicians on a salary basis were 75.3 per cent and 71.3 per cent, respectively, of the total treatments. At the end of the fiscal year there were 5,739 beneficiaries under the supervision of follow-up nurses. General Hines states that the material decrease of the number of examinations made for outpatient purposes was due largely to the act of Congress approved March 20, 1933, and the regulations issued thereunder, which prescribed new eligibility requirements for entitlement to certain benefits.

Dental services rendered in Veterans' Administration clinics during the year, if computed on a fee basis, would have cost \$1,700,910, whereas the actual cost of furnishing this relief was \$869,708.52, thereby resulting, it is said, in a saving of almost 50 per cent. The number of beneficiaries that received dental treatment during the year was 57,018, an increase of 20,232 over the previous year, due largely to including for the first time dental work furnished by clinics at Veterans' Administration homes. At the close of the year there were 158 full time and 3 part time dental officers on duty with the Veterans' Administration.

Although 118 years has elapsed since the close of the War of 1812, there are yet seven persons receiving pensions on account of services rendered by soldiers in that war, and there were still 415 widows of Mexican War veterans on the pension roll. At the close of the year, pensions were being paid to 23,863 veterans of the Civil War, representing a reduction of 7,209 since the close of the previous year. There were also on the pension rolls 125,638 widows and minor or helpless children of veterans of the Civil War, a decrease of 14,286. The grand total disbursements for pensions on account of the Civil War to June 30, 1933, was \$7,698,594,101.77. The estimated amount paid to pensioners of all wars and the regular establishment from the year 1790 to June 30, 1933, is \$8,871,483,951.58. The total number of pensioners on the roll at the end of this year was 416,840, a decrease of 21,101 over the previous year; of the total, 174,121 were widows and dependents of veterans and 566 were army nurses.

The seventy-third Congress of the United States in an act approved March 20, 1933, repealed all laws granting pensions to veterans of the World War for disabilities incurred in service and in place thereof provided for the payment of pensions effective July 1, 1933. General Hines summarizes the eligibility requirements and the rates established for pensions. Compensation was being paid, June 30, 1933, to 336,710 veterans for disabilities directly or presumptively resulting from service in the World War, an increase of 8,052 over the previous year, and the disbursement for this purpose during the year was \$184,824,665.79, a decrease of about four and three-fourth millions of dollars. The average monthly value of all compensation awards at the end of the year was \$43.70, a decrease of 42 cents over the corresponding date of last year. The major disabili-



ties for which veterans are receiving compensation are neuropsychiatric diseases (21 per cent), tuberculosis (19 per cent), and general medical and surgical conditions (60 per cent). There were 2,966 women veterans receiving compensation, June 30, 1933, an increase of 62 over a year ago; of these women, 2,424 were army nurses and 122 navy nurses. June 30, 1933, compensation was being paid to the beneficiaries of 98,628 veterans who died in service or as a result of disabilities or injuries incurred in service during the World War, an increase of 1,180 cases over the previous year. Death claims have been paid to date to the beneficiaries of 128,818 deceased veterans. The principal causes of death of veterans who died as a result of service and whose dependents now receive benefits was tuberculosis, 30 per cent; injuries, 28 per cent, and disease of the respiratory system, 25 per cent (largely influenza contracted during the 1918 epidemic). Regular monthly payments were being made, June 30, 1933, to 6,007 emergency officers who incurred disabilities of 30 per cent or more in the World War, a decrease of 408 over the previous year, which decrease was due, it is said, to an act of Congress approved June 30, 1932. There were 616,069 government life converted insurance policies in force at the close of this fiscal year.

The Veterans' Administration, June 12, 1933, began a selection of veterans to compose the veterans' contingent for emergency conservation work. Later the authority for enrolling veterans in this work was extended, and 26,838 selected veterans were in work and conditioning camps, July 31, 1933. The hospital facilities controlled by the Veterans' Administration were made available for the treatment of employees of the Civilian Conservation Corps, and on June 30, 1933, there were 201 of these men under treatment in these facilities.

The number of employees on the rolls of the Veterans' Administration, June 30, 1933, was 35,467, whose annual aggregate gross salaries totaled about fifty-eight and a half million dollars, including allowances but excluding compensation paid per diem and per hour employees. This was a decrease of 1,351 employees at the close of the previous fiscal year. The personnel in the central office of the Veterans' Administration decreased from 5,372 to 5,052 during the year, and the personnel on duty at field stations decreased from 31,446 to 30,415, a reduction of 1,031 employees. The actual net disbursements of the Veterans' Administration for all purposes for the activities under its jurisdiction during the fiscal year totaled \$868,688,479.42, of which amount \$13,517,369.43 was for new hospitals and domiciliary facilities.

General Hines summarizes regulations that grew out of the act of Congress of March 20, 1933, tending toward the administration's broad economy program. On June 16, 1933, Congress further liberalized the act of March 20, 1933, and the regulations issued to that time. This act extended protection within defined limits in the several classes of pensions previously awarded to veterans and their dependents of the World War and the Spanish-American War and set up boards of re-

view throughout the country for the final determination, subject to appeal, of veterans' claims, in which presumptive service connection had hitherto been granted under the World War veterans' act of 1924 as amended. Congress in this act appropriated \$531,988,000 for the administration of veterans' relief (exclusive of the appropriation for the adjusted service certificate fund) for the fiscal year 1934, which was a reduction of some \$338,000,000 in the 1934 appropriation previously sought for the same purpose.

Included in the report is a tabulated survey of all government hospitals, showing, among other things, their locations and the locations of the nearest government hospital, the capital investment in each hospital, the number and age of the patient buildings, the beds available, and the general nature of the medical work.

### VETERANS' RELIEF REGULATIONS MODIFIED

President Roosevelt announced, January 19, it is reported, certain modifications of the regulations providing for veterans' relief. The changes affect 228,000 veterans and add \$21,092,000 to the cost of the Veterans' Administration, bringing the total for the present fiscal year to \$510,000,000. The several amendments to the regulations affecting the veterans provide for:

1. Increase from \$90 to \$100 in pensions for veterans suffering total service connected disability, and proportionate increases for those suffering less than total service connected disability.
2. Liberalized provision for hospitalization of veterans in non-service-connected emergency cases in which patient cannot pay.
3. Granting of \$15 monthly pensions to Spanish-American War veterans in service ninety days, discharged for disability incurred in less than ninety days, or who are now 50 per cent disabled, regardless of service connection or age.
4. Increase from \$15 to \$100 in funeral allowance for deceased war veterans.
5. Elimination of provision requiring veterans suffering non-service-connected disability, not due to their own misconduct, to prove minimum of ninety days service before granting of \$30 monthly pension.
6. Restoration of former pension rates to widows of regular army officers and enlisted men who died of disabilities incurred in line of duty.
7. Modification of rule prohibiting payment of pension of federal employees receiving salaries more than \$50 a month, and granting pensions to single employees paid not over \$1,000 a year, or married employees not over \$2,500 a year.

### PATIENCE REWARDED

"When do you graduate?"

"End of this quarter."

"Surprised?"

"No; I've been expecting it for years."—*Ames Green Gander.*

## INORGANIC SALT AND WATER METABOLISM

The Wileys and Waller fed sodium, potassium and ammonium chlorides and sodium bicarbonate in equivalent quantities to a normal man on a salt-poor, maintenance diety. Sodium chloride administration was accompanied by a negative potassium balance, an early sodium and chloride retention followed by an increased excretion of both, an increased excretion of both urinary and fecal calcium, and slight changes in body weight. The ingestion of potassium chloride caused an increase in the excretion of sodium and potassium, resulting in a negative balance for each of these elements, a decrease in the inorganic phosphates, an increase in inorganic sulphates, and no marked change in the body weight. The ingestion of ammonium chloride was accompanied by negative balances in sodium and potassium, the latter being quite marked, slight negative balances for calcium and magnesium, and an increased ammonia formation and titratable acidity. The body weight declined during the feeding periods, indicating a loss of body water, and in the control periods the gain in weight more than balanced this loss. Sodium bicarbonate cause a slight retention of water, a negative sodium balance, a positive potassium balance, a slight decrease in chloride excretion, and a marked decrease in ammonia formation.

Hoffman and Post made careful metabolic balance experiments of four patients with nephrotic edema for the relationship of the mineral metabolism to edema. They found that the ingestion of water, sodium or chloride produces a transudation of these substances across the capillary walls to keep the osmotic relations of the plasma and extracellular fluids somewhere near normal, until the excretion by the kidneys restores the normal body content. A low serum protein concentration produces a tendency for accumulation of extracellular fluid because of the lag in the return of fluid into the blood stream. The extent of this accumulation is determined, among other factors, by the speed with which the kidneys carry on the excretion of water, sodium and chloride. An adequate excretion of sodium (and therefore of its quota of water and chloride) in nephrosis is apparently possible only when the serum sodium concentration is at a normal or higher than normal level. The serum sodium concentration seems to be related to that of red cell potassium, and factors that raise the latter may raise the concentration of serum sodium and thereby increase the urinary excretion of sodium.

## EFFECTS OF VIRULENCE OF MICRO-ORGANISM

Medlar and Sasano made a comparison of the microscopic changes caused by the same strain of tubercle bacillus in the state of high and of low virulence. The virulent bacilli caused an acute inflammatory response in the normal nonallergic rabbit wherein the neutrophils predominated. The bacilli of

low pathogenicity called forth monocytes and lymphocytes, thus giving an inflammatory reaction of a chronic type. Abscesses, caseation and cavitation were regularly produced in normal, nonallergic rabbits infected with bacilli of high virulence, while tubercles, giant cells, lymphocytic infiltration and fibrosis were predominant in those infected with bacilli of low virulence. Classic tubercle is a retrogressive healing lesion. As such it is found in virulent infections on allergic soil or in nonvirulent infections on nonallergic soil. The present distinction between the pathology of first infection and reinfection is open to serious question, because the degree of virulence and dosage of the infectious agent are not duly considered. The same criticism may be justly made of the distinction drawn between tuberculosis in the child and in the adult.

## LEARN THESE FACTS ABOUT CANCER

Truths that everyone should know about cancer are listed in an article in the April *Hygeia* by Dr. Francis Ashley Faught.

Cancer begins as a single spot and is at first always a local disease; as such it is removable and permanently curable.

Cancer never dies out of itself, but continues to grow until it destroys the life of the person in whom it grows.

Cancer is not a blood disease; it is the abnormal growth of normal cells in the body.

Cancer is in no way infectious or contagious.

Cancer chooses to attack diseased rather than healthy parts; therefore cancer may be considered in some instances a preventable disease.

Precancerous conditions are those which are not yet cancerous but may become cancerous if neglected.

Chronic irritation is a definite precursor of cancer.

There is no safe, simple serum, drug or other remedy for cancer.

Surgery, X-rays or radium, singly or combined, are the only known methods of treatment.

The periodic health examination is a valuable preventive measure against cancer.

## POOR THING

A group of little girls had been playing with their dolls when a discussion arose and the mother of the one, whom the others were visiting, stopped to listen. "Well," said one little tot, "I don't believe in storks. The doctor brought me in his big black bag." "And I was bought at the drug store," piped up another. A pause and then another said, "We are too poor, so I guess I must have been homemade."

## IN THE OLD, OLD DAYS

After the death of Jacob Dormire, of Palestine, Shelby county, Ohio, who died last week, a post-mortem was held by physicians, and it was found that his death had been caused by three grape seeds which had lodged in the appendix, and one had sprouted and closed the passage with a pus-sack. He was a terrible sufferer for three days before his death.



## Original Articles

### DEEP NECK INFECTION—SURGICAL APPROACH\*

HANBY L. FORD, M. D.,  
CHAMPAIGN, ILL.

In this presentation I shall endeavor to bring forward very few original thoughts and impressions but rather emphasize the importance of the careful perusal and study of articles listed in the bibliography, upon whose authors I have drawn very freely. The great importance of the subject, I am confident, is generally recognized, but feel quite vaguely understood by many and it is my purpose to review very briefly some of the most important points in the applied anatomy of the neck structures and thereby give a better conception of what transpires in deep neck infection, stress the importance of timely diagnosis and early surgery where definitely indicated.

The paper is based upon personal study and operating room experience, freely abstracted pertinent literature, and careful anatomic review of fourteen cadavers, particular attention being paid to the cervical fasciae, pharyngomaxillary, parotid, and submaxillary fossae, retro-pharyngeal and submental spaces, and neuro-vascular carotid sheath. In cadaver dissection, the pharyngomaxillary fossa before entering the retrostyloid compartment, measured an average of two inches in depth and, after entering the finger beyond what I shall call the "sphincter," later to be described, the entire length of the forefinger could be entered to the base of the skull. Considerable variation was found in the location of the anterior facial vein, although usually found crossing the submaxillary gland, over the posterior third; whereas the artery practically in every case "grooved" the posterior aspect of the gland and served as a "hinge" to turn it backward during the "submaxillary fossa approach" as described by Mosher. One is impressed by the great tensile strength of the deep cervical fascia,—a sheet of fibrous tissue as tough as a whip cord—the dense parotid fascia with the trabeculae knitting the gland together like a Persian rug—capable of sustaining a weight of two to three hundred

pounds. This forced the realization that fluctuation in the neck at a sensible time is an impossible thing. Pus will not work through a "cow hide," so to speak.

All consideration of neck suppuration must necessarily be preceded even in the surgeon's mind before operating, by a review of the applied anatomy.

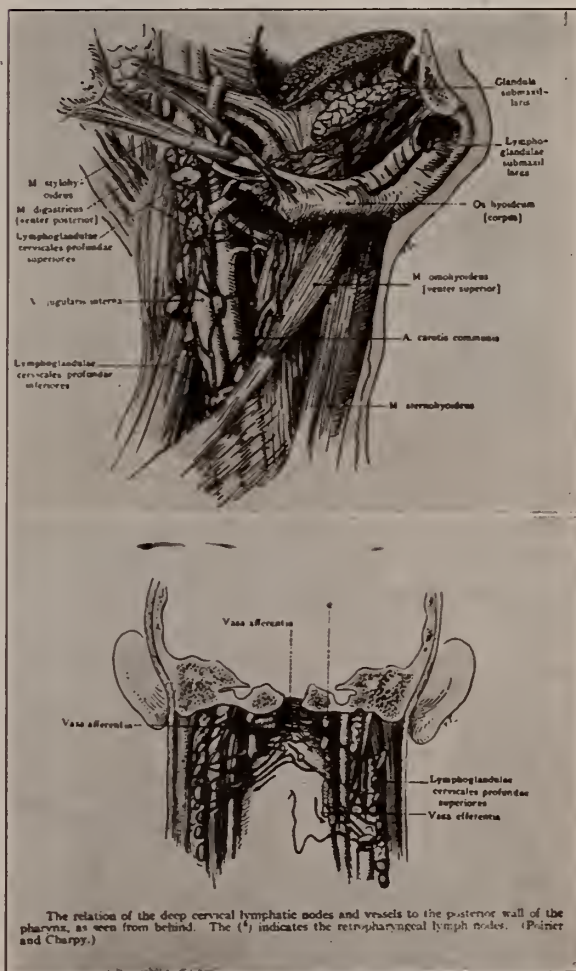


Fig. 1. Deep lymphatic drainage.

Fig. 1. *Deep Lymphatic Drainage.* It is by way of the lymph vessels and glands draining the upper respiratory tract and the loose connective tissue spaces intimately connected with them, that abscesses descend into the neck and mediastinum.

The deep cervical fascia forms a complete sheath inclosing the muscles of the neck and the structures which lie between and under them. Then general arrangement is best studied in cross section at the thyroid isthmus. Here it is possible to recognize 1. a *superficial* or "splitting"

\*Read before Section on Eye, Ear, Nose & Throat, Illinois State Medical Society, Peoria, May 17, 1933.



layer, 2. a *pre-tracheal* layer, 3. a *pre-vertebral* layer, and 4. a *fascial sheath* which encloses the common carotid, vagus, and internal jugular on either side. The first layer which covers the deep

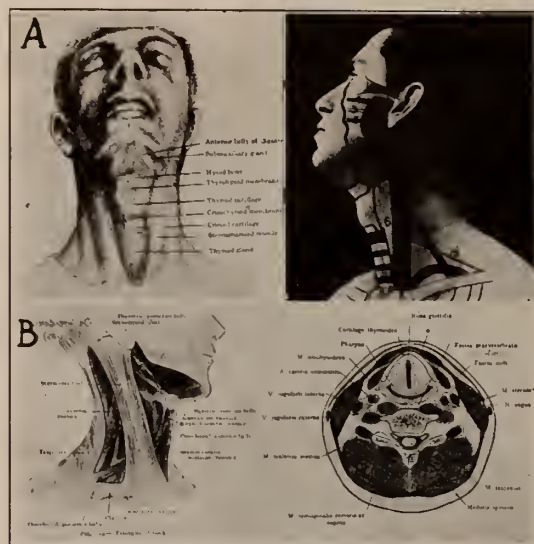


Fig. 2. (A)—Side of neck and face; (B)—triangles of the neck and cross section of the cervical fasciae.

Fig. 2. (a) *Side of the Neck and Face.* Showing the great horn of hyoid bone and danger of vertical incisions in suppurative parotitis; and *surface markings.*

(b) *Triangles of the Neck and Cross section of cervical fasciae.*

part of the sterno-cleido-mastoid is blended with the lateral surface of the carotid sheath. In front it is attached to the body and great horn of the hyoid and then as it is prolonged upward

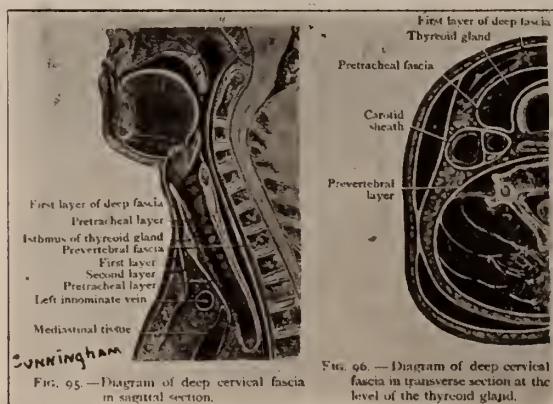


Fig. 3. Deep cervical fasciae in transverse section at level of thyroid gland, and in sagittal section.

Fig. 3. Deep cervical fasciae in transverse section at level of thyroid gland, and in sagittal section.

it splits anteriorly to enclose the submaxillary gland and posteriorly to enclose the parotid gland. The superficial layer over the parotid is attached to the zygoma. The lamella which passes deep to the parotid covers the posterior and anterior medial aspects. The posterior part is attached above to the lower border of the tympanic plate and the anterior part to the petrotympanic fissure. It has an intermediate attachment to the styloid process and to the posterior border of the angle of the mandible. That portion is relatively thick. It lies in relation with the lower part of the antero medial surface of the parotid and is known as the *stylo-mandibular* ligament. This ligament separates the submaxillary from the parotid gland. This deep parotid fascial and ligamentous arrangement may be likened to the extended thumb and first two fingers in tripod fashion. The deep fascia of the parotid is not complete to the base of the skull. It does not cover the upper inner surface of the parotid,—permitting this part of the gland to be in intimate relationship with the anterior part of the pharyngomaxillary fossa. The prevertebral fascia forms the posterior limit of the visceral space, containing the larynx and trachea, thyroid gland, and the pharynx and esophagus. These latter structures physiologically move up and down in this compartment being likened by Iglaue to a “piston in a cylinder,” thereby tending to spread infection.

Parallel to the carotid sheath and along its medial aspect the prevertebral fascia gives off a thin strip, the *bucco-pharyngeal* fascia, which closely invests the pharyngeal muscles. The latter is attached to the prevertebral layer by loose connective tissue only, leaving an easily distended *retropharyngeal* space, limited above by the base of the skull, and below extending behind the esophagus into the posterior mediastinal cavity of the thorax.

The *pretracheal* fascia extends in front of the carotid vessels and trachea, fixed above to the hyoid, fused on either side with the prevertebral fascia, and extending downward at the root of the neck, ultimately blending with the fibrous pericardium.

Fig. 4. *Pharyngo-maxillary fossa.* (a) Cross Section. The pharyngo-maxillary fossa, or para-pharyngeal space, may be considered as a pyramidal cone about  $2\frac{1}{2}$  to  $3\frac{1}{2}$  inches in depth,

with the base in relation to the skull around the jugular foramen and apex at the great horn of the hyoid bone, directed up, in, and back; limited medially by the superior constrictor with the tonsil attached, in the anterior portion—and in the posterior medial surface by the retropharyngeal space, being separated from the latter by a thin lamella of fascia;—in the outer boundary

considerable resistance to the penetrating finger when passing from the anterior to the posterior compartment, giving one the impression of a constriction, so that in a suppurative process the styloid musculature does not easily yield and permit ready access of the infection to the posterior compartment. The tensile strength of this fascial bed is very great and assuredly yields

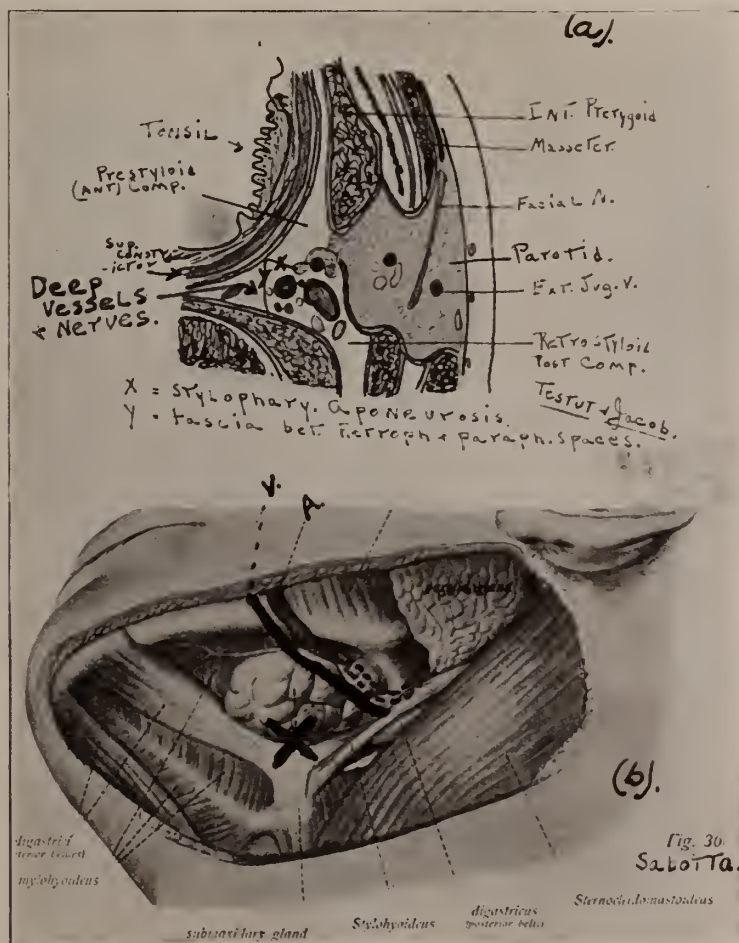


Fig. 4. Pharyngo-maxillary fossa (a) cross section, (b) from the front-relationship of vein, artery, and fold of fascia between submaxillary and parotid gland.

—above, the parotid gland, deficient in fascial investment, and below,—the internal pterygoid muscle lining the inner surface of the mandible. Posteriorly, the prevertebral muscles and fascia. Dividing the space into two unequal compartments, the pre-styloid and post-styloid, is the styloid process with its attached muscles overlying the great vessels.

Zuckerkindl states that there is a communication between the stylo-pharyngeus and styloglossus muscles. On the cadaver one encounters

only to a “dissecting process,” as pus under pressure. The pus may burrow down into the neck at the apex of the cone, *around*, not in, the carotid sheath;—from involvement of the posterior compartment;—or at a lower level under the posterior belly of the digastric with access to the larynx, trachea, esophagus, posterior cervical triangles or mediastinum; or, up to the base of the skull; or, extension may occur, uncommonly, to the retropharyngeal space.

(b) Pharyngo maxillary fossa from the front,



—relationship of vein, artery, and fold of fascia between submaxillary and parotid gland.

Fig. 5. *Relation of submaxillary, parotid and pharyngo-maxillary fossae to carotid sheath with Beck's conception of fascial arrangement and the author's conception.*

Fig. 6. *Pharyngo-maxillary fossa from behind.*

The fossa may become the seat of suppuration from a variety of causes as infected tonsils,

view classifies deep cervical infection under two headings: "A *phlegmonous type* in which signs of local inflammation are predominant and a *vascular form* in which these are absent or subordinate; the symptoms from the start being those of a systemic involvement." The first is the typical variety and accounts for 94 per cent. of the cases reviewed by him. It is primarily a cellulitis of the loose tissue within the prestyloid compartment—abscess formation taking

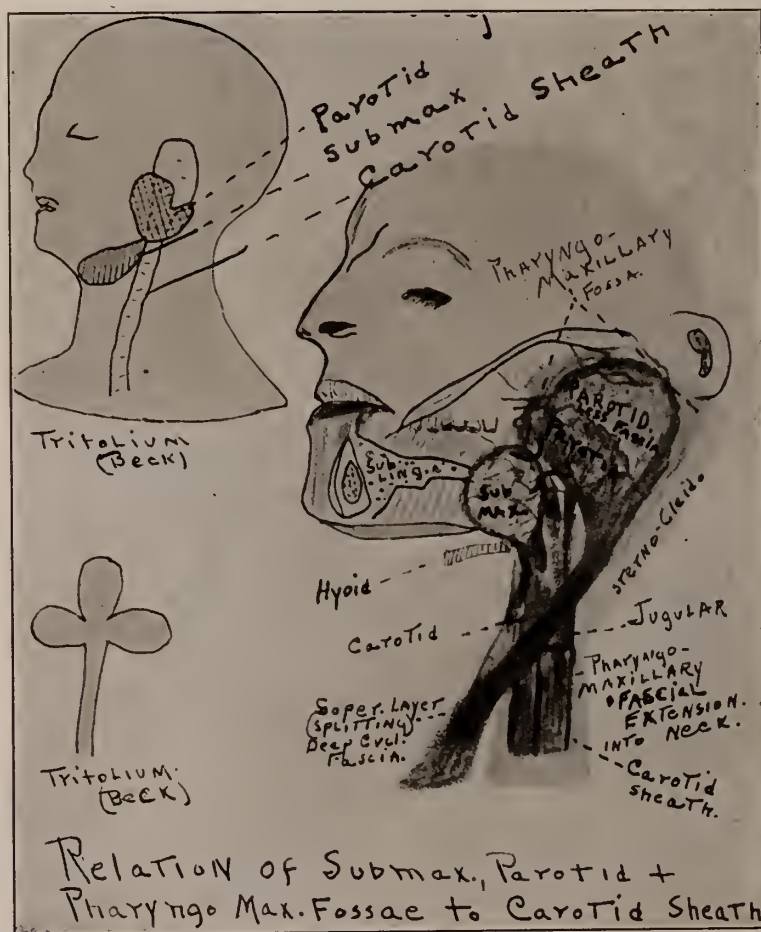


Fig. 5. Relation of submaxillary, parotid, and pharyngo-maxillary fossae to carotid sheath, with Beck's conception of fascial arrangement, and the author's conception.

glands in the fossa, from a Bezold's mastoid abscess or petrositis, retropharyngeal glands, suppurative parotitis, diseased teeth, nasopharyngitis, spinal caries and following local tonsillectomy. *Infection of this space constitutes over one-half the cases of deep neck infection.* Even in the cases where the point of origin of the infection is elsewhere there very frequently occurs extension into the space. Shapiro's re-

place. The *diagnosis* rests mainly on three cardinal signs—in order of appearance, these are *trismus*, *fever*, and *swelling of the neck* on the affected side. Other symptoms may occur later. The trismus, first to appear, is due to "splinting" of the internal pterygoid and involvement of the pterygomandibular ligament. Temperature becomes septic, often with chills preceding the high excursions of temperature, and sweats following.





occurs primary thrombosis of the retrotonsillar veins; Uffenorde feels that the lymphatics and

lymph nodes adjacent to the vein are the most important; while Waldapfel feels that the thrombosis results from peri-vascular infiltration by contiguity with the abscess.

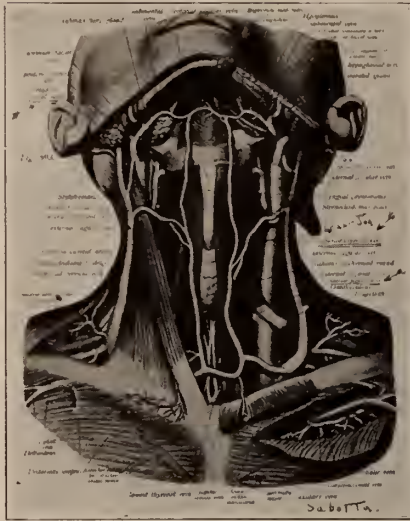


Fig. 7. Veins of the neck, superficial and deep.

Fig. 7. *Veins of the Neck*—superficial and deep. With emphasis as brought forward by Mosher on the anterior jugular branch which when present runs under the edge of the sternocleidomastoid, the facial veins, lingual, and superior thyroid veins.

Fig. 8. *Deeper Neck dissection to show the surgical significance of the great horn of the hyoid bone as emphasized by Mosher.* To quote from his article, "I am always grateful for a landmark which can be both seen and felt. Such is the tip of the great horn of the hyoid. Out of sixteen major structures of the neck only three—all nerves—namely, the glosso-pharyngeal, the recurrent laryngeal, and the phrenic—are not in relation with it. The lingual vein is

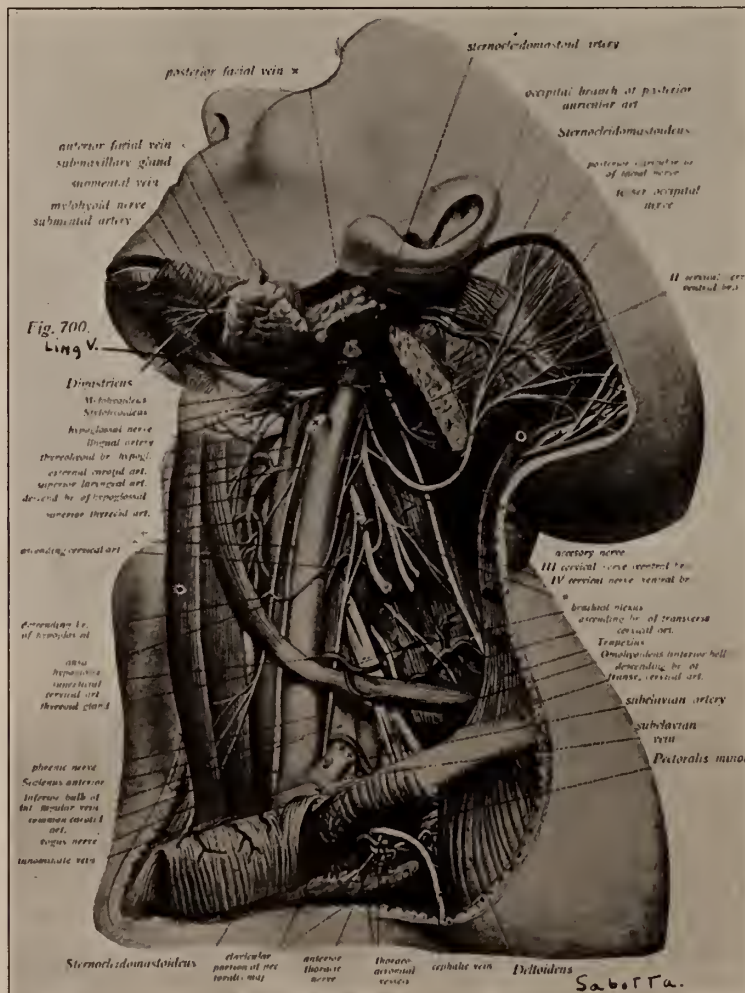


Fig. 8. Deeper neck dissection to show the surgical significance of the great horn of the hyoid bone as emphasized by Mosher.



above, the facial below, the external carotid and carotid sheath external and the hypoglossal nerve is seen to lie in the field above the horn itself with the descendens noni over the carotid sheath."

Fig. 9. (a) *Mosher Submaxillary fossa approach for deep pus in the neck.* Consisting of a generous T-shaped incision for wide exposure, to better identify important structures and ligate veins. The facial vein will not always

If it is necessary to drain a pus pocket in the floor of the mouth or at the base of the tongue an incision in the center of the floor of the submaxillary fossa can be carried forward or backward as indicated. The side of the tongue and floor of the mouth are within easy reach.

The "surgical awakening" upon realization of the surgical significance of such an approach as emphasized by Mosher is very real. Also to use his words "delayed surgery in cases of deep neck

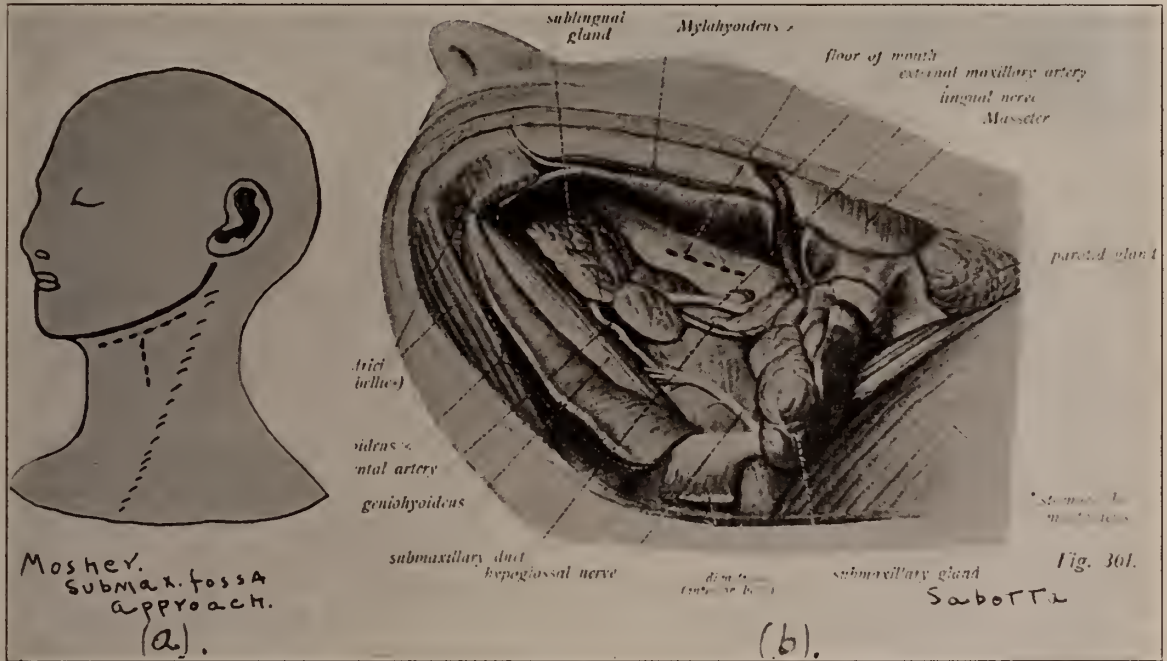


Fig. 9. (a) Mosher submaxillary fossa approach for deep pus in the neck, (b) showing relationship of submaxillary and sublingual glands to floor of mouth.

need to be cut, as it may be pushed to one side often, and the submaxillary gland turned upward with the externally maxillary artery acting as a hinge. The hypoglossal nerve is superficial and just above the tendinous V of the digastric bellies. The finger may then follow the carotid sheath in either direction. Upward the finger enters the pharyngo-maxillary fossa passing to the outside of the tonsil. Then is felt the styloid process, with attached diagonal muscles. At this point one is conscious of the sensation of a constriction with considerable resistance and passes to the outside of the styloid and up to the skull in the posterior compartment, between the styloglossus, the stylo-pharyngeus, and stylo-hyoid muscles.

(b) Showing relationship of submaxillary and sublingual glands to floor of mouth.

suppuration is disastrous and unrecognized cases occur daily."

Watson Williams recommends opening the parapharyngeal abscess or "quinsy that isn't" through the mouth, *where possible*. There is no question that many abscesses in this location open spontaneously and it is perhaps significant that the patient usually says, "It burst in the throat," when we have endeavored to open a peritonsillar abscess but failed to locate the pus. The abscess was probably not a true peritonsillar abscess at all—that is, located between the sinus tonsillaris and the capsule, but posteriorly in the lateral wall of the pharynx. It seems logical where a definite area of pointing can be made out, and one is suspicious of suppuration, to incise immediately behind the posterior pillar, at the level of the lower end of the tonsil, and use



a blunt curved forcep directly outward or a trifle forward in an endeavor to locate the pus. Fail-

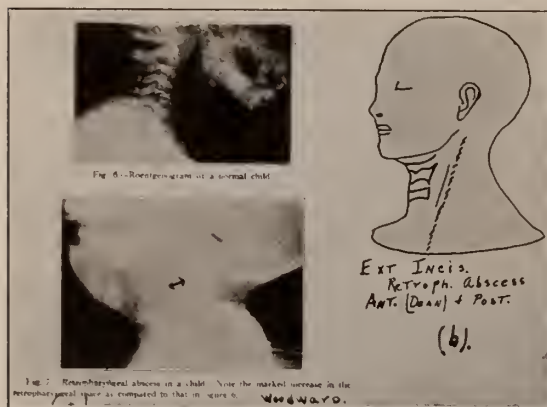


Fig. 10. (a) Lateral roentgenogram of retro-pharyngeal abscess, (b) site of external incision.

ing this, one proceeds with the external route. Fig. 10. (a) *Lateral Roentgenogram of Retropharyngeal abscess.*

(b) *Site of external incision.*

**Retropharyngeal abscess.** Anatomically the retropharyngeal space is ideally situated as a focus of infection. Superiorly, as shown by Wishart, the subpharyngeal connective tissue binds the mucosa firmly to the basilar process of the occipital bone, with a connective tissue raphe, very firm, in the mid line, preventing extension of infection from one side to the other posteriorly, but inferiorly there is practically no downward limit. The boundaries of the fossa show that it is open to infection from all sides. From anatomical consideration it may be seen that pus may (a), drain spontaneously into the pharynx, (b),—burrow laterally into the parapharyngeal space along the great vessels, (c),—drain down into the mediastinum, or (d),—be guided downward by the pre-vertebral fascia under the clavicle or along the sheath of the axillary vessels.

Seventy-five per cent. of such infections arise during the first three years of life, generally following some debilitating illness coupled with infection about the nose, throat, or ear, and arising as a result of infection of the retropharyngeal lymph glands. Diagnosis is made from the history, dysphagia—painful and mechanical with progressive inanition, cervical adenitis, dyspnea, croupy cough and boggy swelling of the posterior pharyngeal wall on careful, guarded palpation. Differential diagnosis should include

adenoiditis, croup, laryngeal diphtheria, foreign body in the larynx, aneurysm of the carotid or ascending pharyngeal, and new growths arising from the cervical vertebrae. Mosher expressed the opinion that every case of peritonsillar or retropharyngeal abscess, associated with chills or a septic temperature, has probably a thrombosis of the internal jugular vein.

Iglauer as early as 1914 called attention to the value of lateral roentgenograms, and emphasized the bulging forward of the pharyngeal wall in cases of retropharyngeal abscess and occasionally the presence of air bubbles after pharyngeal or esophageal perforation. Later, Percy D. Hay, in 1930, published his "Monograph on Radiology of the Neck." In this study he established for measurement, a "norm," the width of the mid-portion of the fifth cervical vertebra; this diameter he designated as "C," and other measurements were made in relation to this unit. Films are made at both phases of respiration. The pictures are an important aid in diagnosis and in observing the progress of the patient.

The slightest sign of hemorrhage in the presence of retropharyngeal abscess is an indication of danger and calls for immediate action, as it may be followed at any moment by a sudden fatal hemorrhage. In such event packing and pressure have little effect and ligation of the internal or common carotid is the only alternative.

The *treatment* of retropharyngeal abscess is surgical and the abscess should be incised at the earliest opportunity, keeping toward the mid line as far as possible and using a blunt instrument. Aspiration or suction may be advisable in some cases as well as the use of the direct laryngoscope, in an endeavor to prevent aspiration of the pus.

When the infection extends to the pharyngomaxillary fossa or deep cervical lymphatic glands, external incision is indicated. The incision is made along the anterior border of the sterno-cleido-mastoid muscle, lateral to the larynx as recommended by Dean, reaching the visceral fascia, and following this around to the prevertebral fascia, then thrusting the finger or a blunt instrument through into the abscess cavity. The posterior incision may be used where necessary, but according to Dean the anterior incision minimizes trauma to the carotid

sheath and avoids the underlying sympathetic nerve.

**Bucco-pharyngeal or visceral fascia infection.** This fascia surrounds the visceral space of Til-laux. In the lower part of the neck it is continuous with the pretracheal fascia, surrounding trachea and esophagus, splitting to envelop the thyroid. Above it covers the constrictor muscles and is known as the buccopharyngeal fascia. Infections from the pharynx and esophagus may penetrate this layer, swelling appearing laterally in the hyoid and laryngeal regions. Higher up, extension occurs laterally into the pharyngo-maxillary fossa. Dyspnea, hoarseness and dysphagia are present. Internal drainage with the esophageal speculum, and insertion of blunt curved forceps, using care in avoiding region of superior laryngeal nerve, may often succeed in relieving the accumulation of pus. If not, external drainage will be necessary.

**Retroesophageal Mediastinitis.** In foreign body work the bronchoscopist not infrequently encounters cases of esophageal perforation, occurring either from the foreign body or as a result of ill advised attempts at removal. Infection of the posterior mediastinum may be accompanied by interstitial emphysema about the root of the neck, and air bubbles may at times be seen in the lateral roentgenogram, as well as displacement of the esophagus forward. The symptoms are those of extreme dysphagia, pain, high fever, rapid soft pulse, sometimes tenderness along the great vessels, and stiffness of the neck. With increasing symptoms and evidence of posterior mediastinitis it is advisable to perform a cervical mediastinotomy,—incision extending from opposite the thyroid notch to the sternum, along the anterior border of sterno-cleido-mastoid muscle. Following the lateral aspect of the esophagus, the finger enters the posterior mediastinum. Two small catheters are introduced for drainage. Suction may be applied to the tubes as recommended by Furstenburg, or irrigation may be performed as recommended by Lewis. As pus in the retroesophageal space remains behind the esophagus to the root of the neck, and below this surrounds the esophagus, incision on *either* side will drain the posterior mediastinum. Contrary to the general belief the mediastinum is quite tolerant to infection, and the prognosis is at least 70 per cent. good providing surgery is instituted fairly early.

**Deep Cellulitis of the Neck.** Deep cellulitis of the neck may occur as a descending extension from above or from suppuration of the deep cervical lymph nodes lying along the internal jugular over the carotid sheath. In the presence of sepsis and induration, the incision should be made well anterior to the sterno-cleido-mastoid muscle, glands removed and vein inspected for thrombophlebitis. In operating on cases of this kind Marschick recommends his method of prophylactic mediastinotomy. "After incision from below the mastoid tip to the sternum, the vascular sheath is reached at the lower end of the incision by blunt dissection and this *anterior collar mediastinum* is tamponed with a strip of iodoform gauze. Proceeding upward the omohyoid is cut and by lifting the thyroid forward

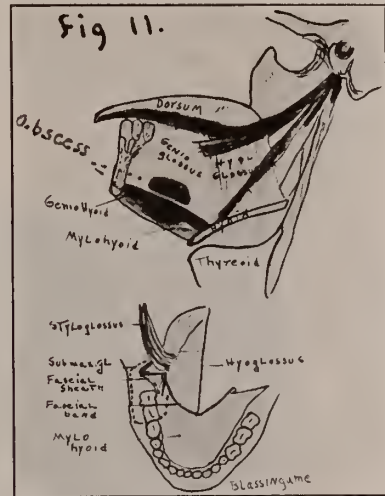


Fig. 11. Ludwig's Angina.

the *posterior collar mediastinum* is reached. Gauze is tamponed here. After tamponing, the original source of the pus is sought through the upper part of the incision, and jugular ligated if necessary."

Fig. 11. *Ludwig's Angina.* Another form of cellulitis may occur in the sub-mental region: The so-called *Ludwig's angina*, which various authors have defined differently. The definitions all agree that the sublingual space must be involved to constitute true Ludwig's angina. Ashhurst and Davis insist that an inflammatory reaction be present in the upper part of the neck. In the early stage the disease is probably within a definite anatomic space as pointed out by Blassingame. Later submandibular involvement by contiguous extension may



occur. The floor of this original space is the mylo-hyoid muscle; its lateral walls the bodies of the mandible; posterior wall, the muscles which unite to form the base of the tongue and the deep part of the submaxillary gland; and, as its roof the tongue and buccal mucosa. Ashhurst emphasized the fact that Ludwig's angina is a *cellulitis and not a lymphangitis*. The origin of the disease is practically always within the lower gingival borders, usually around the teeth, and within the floor of the mouth. There occurs, in the presence of infection,—elevation of the tongue, and redness and edema of the mucous membrane. When confined to one side the tongue is pushed to the opposite side. If bilateral, or near the mid line the tongue is pushed up. Marked discomfort, painful swallowing, dribbling of saliva, and embarrassed respiration are frequently present. Externally there is the characteristic *board like swelling—non-fluctuating but markedly tender*. Septic temperature and moderate leucocytosis coexist.

Fig. 12. Approach to Ludwig's Angina.



Fig. 13. Case Ludwig's Angina.

The *treatment* is thorough surgical drainage of the infected area. The abscess cavity may be pocketed above or below the diaphragm of the mylo-hyoid muscle;—if above, the abscess may

sometimes be evacuated by an incision within the floor of the mouth;—but when below, deep

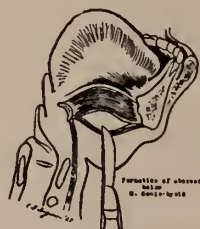


Fig. 11.—The position of an abscess deep above the geniohyoid muscle.

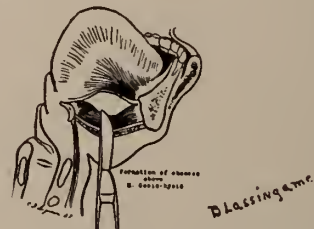


Fig. 12. Approach to Ludwig's Angina.

external incision is indicated. Ashhurst recommends three incisions as systematized by G. G. Davis, in bilateral involvement. (a) The first, in

the mid line, superficial, with the insertion of long curved forceps through to the floor of the mouth, and the pulling down of a long rubber tube from the mouth to the neck, each end being



fixed by a safety pin. (b) The second, when retro-mandibular involvement is occurring, is made antero-posteriorly below the angle of the jaw, through skin and platysma with insertion of curved forceps through the submaxillary space and out through the mucous membrane opposite the tongue, with the insertion of drainage tube as before. (c) The third, similar to the second, on the opposite side, if accumulation is bilateral—rarely necessary. Personally, I feel that Mosher's submaxillary approach, using possibly only the horizontal limb of the T incision, is preferable for the posterior drainage rather than the blind insertion of curved forceps. There is less likelihood of injury to important anatomical structures. Also, there is possibly some question as to the advisability of carrying the incisions into the mouth, for fear of further mixed infection from the oral cavity. Edema of the larynx may indicate tracheotomy; the indication may not, however, be so much from an edema of the larynx as from blocked respiration from the enormous upward displacement and swelling of the tongue.

Fig. 13. Case Ludwig's Angina.

#### CONCLUSION

Dissecting suppurative processes in the neck follow definite fascial planes. Familiarity with the surgical anatomy, courage and decision are necessary to cope successfully with such cases. Timely diagnosis and knowledge of the fascial line of least resistance against the dissecting process is all important. Institution of proper surgical drainage at a sensible time will save many patients who might otherwise die of some fatal complication.

In the words of Thomas Carmody of Denver, "Continue the hot poultices to bring about fluctuation in deep cervical infection and the abscess will probably open about three days after death." And a final word of admonition:—in operating, one should make an adequate incision, *stay out of the muscle sheaths, use blunt dissection, see the veins*—retracting them where possible or cutting between ligatures, and know the relations of several anatomic landmarks, so that, where deep induration exists, the hand may be steadied by the recognition of a few.

#### BIBLIOGRAPHY

1. Barnhill, John F.: Nose, Throat and Ear. 1928, Appleton & Company, N. Y.; also personal instruction and direction in dissection.
2. Waldapfel, Richard: Post Tonsillitis pyemia. Trans. Amer. Acad. Oph. and Oto-Laryng. 291. 1928.
3. Mosher, Harris P.: The Submaxillary Fossa Approach to Deep Pus in the Neck. Trans. Amer. Acad. Oph. and Oto-Laryng. pp. 19-36. 1929.
4. Shapiro, S. F.: Deep Cervical Infection Following Tonsilectomy. Arch., Oto-Laryng., Vol. 11, pp. 701-725. June, 1930.
5. Iglauer, Samuel: Deep Suppuration in the Pharynx and Neck As It Concerns the Laryngologist. J. Mich. State Med. Soc. June, 1931.
6. Beck, August L.: A Study of Twenty-four Cases of Neck Infection. Trans. Amer. Acad. Oph. and Oto-Laryng. 1932. pp. 342-377.
7. Lewis, Dean: Pract. of Surg. Vol. 4.
8. Ashurst, Astley: Arch. of Surg. May, 1929. Vol. 18, pp. 2047-2078.
9. Blassingame, Chas.: Angina Ludovici Arch. Oto-Laryngol. 8, 159-176. August, 1928.
10. Houser, Karl Musser: Ludwig's Angina, Arch. Oto-Laryngol. Sept., 1932. Vol. 16, pp. 317-328.
11. Palmer, F. E.: Descending Abscesses in the Neck. Jour. A. M. A. Dec. 27, 1924. Vol. 83, pp. 2067-2070.
12. Books, Earl B.: Acute Retropharyngeal Abscess. Laryngoscope, Oct. 1931. Vol. 41, pp. 671-686.
13. Dean, L. W.: The proper procedure for external drainage of retro-pharyngeal abscess secondary to caries of the vertebrae. Jour. Laryng., Rhin., and Oto-Laryng. Sept., 1918.
14. Waton Silliams: Parapharyngeal abscess, 792-794, April 12, 1930.
15. Carmody, Thos.: Discussion on Beck. Transact. Amer. Acad. and Ophth. 1932.
16. Gray, Sabotta & McMurrick, Davis applied, and Cunningham Anatomy Texts.

#### DISCUSSION

Dr. Harry Woodruff, Joliet: It would seem proper for me to report a case in connection with this paper. A number of years ago a patient was referred to me for a very severe pain in the neck, temperature, etc. I put him in the hospital. The history was that he was a farmer, and was threshing barley, probably running about and shouting, and something entered the mouth. A few days later he had this pain, and after several days was sent to me. Having a great respect for the anatomy of the neck, not being a general surgeon and doing neck operations, and feeling very definitely that I had a deep cervical abscess, I used an aspirating needle and followed that with a trocar and succeeded in getting satisfactory drainage. Pus escaped and he was relieved of the symptoms, but the discharge continued for quite some time, so long that it began to look as if it would not heal. Then one day in washing it, came this barley beard. The theory was that he drew this through the duct into the parotid gland where it caused infection and this pus. I have had some of these deep abscesses from other causes.

I would not for a moment disparage the careful study and description Dr. Ford has given us of the anatomy of the neck, but I think it serves to impress us with the fact that if we are not doing neck surgery right along it is rather a dangerous procedure to attempt a cutting operation. It would be for me, so in the few cases I have had I have followed the same method with entire satisfaction. Perhaps it is not as scientific as going in with a knife, but it leaves no scar, and you can by following the aspirating needle with a trocar, get sufficient drainage with no damage to the deep vessels.

Dr. H. L. Ford, Champaign (closing): I appreciate very much Dr. Woodruff's citation of his case. Per-

sonally, however, I should hesitate more to insert blindly a needle or trocar into one of these deep neck abscesses than to openly expose the area of danger, usually by the submaxillary approach. Then one is not apt to injure vital structures. However, I do feel that a thorough understanding of the anatomy of the deeper neck structures, and blunt dissection with Mayo scissors, and avoidance or cutting of veins between ligatures is all important.

(Slide—Case of Ludwig's Angina.) This one case I present merely because it is so recent. A Ludwig's Angina following extraction of a lower right molar with swelling of the floor of the mouth involving both sides within twenty-four hours. Incised within floor of the mouth by family physician at the end of forty-eight hours, dark blood being obtained, a frequent finding according to Ashhurst;—operated on two days ago, with temperature of 103.6 and danger of impending laryngeal edema, insertion of rubber tubes as you see in the picture—above the level of the genio hyoid. Temperature this morning, forty-eight hours later, 99.4; serous discharge from the tubes and swelling subsiding. Patient was also given potassium bismuth tartrate intramuscularly.

## MEDICAL ECONOMICS\*

R. R. FERGUSON, M. D.

Chairman, Advisory Committee Woman's Auxiliary, Illinois State Medical Society

CHICAGO

A speech is an after dinner affair so I am not giving you a speech. I am going to select individuals who are here today for a heart to heart talk about three or four different subjects. The rest of you may listen in as long as you are here anyway. The field of "Medical Economics" is too large to cover in a short talk, so I will just pick out for discussion some of the important subjects of special interest to you.

Mrs. Cole—I am going to talk to you for a few minutes about the early days of the Auxiliary. I can remember when an auxiliary was first talked about in the State Council. Doctor Harold Camp and Doctor Chapman had heard something about an auxiliary for the State Medical Society, but none of us seemed to know very much about it or its purpose. We talked over the subject and decided we did not want an auxiliary because we thought the women would probably run away with the State Society. We did not see the good in an auxiliary at that time. So things went along very quietly for two or three years. Then some of us were wise

enough to believe there was a place for an auxiliary to assist the Society and we finally decided to try and help guide an auxiliary in the right paths. You know the history of the Auxiliary since then. I wish that we had started earlier. Your organization today is giving splendid service to the Chicago Medical Society and State Medical Society and as time goes on your Auxiliary will continue to grow. I think Chicago is one of the most difficult places in the country in which to organize an auxiliary since it is scattered over such a large territory and because we have fifteen branches besides the Central Society. You are to be congratulated on your membership and your work.

I will now talk to Mrs. Cubbins on the need of such an organization as the Auxiliary. It can help counteract propaganda detrimental to the medical profession and the people. It can help stop the exploitation of the medical profession and see to it that corporations are not allowed to practice medicine. The practice of medicine is conferred upon the individual after years of study, research and examination. Corporations cannot take the place of the individual and should be denied the privilege of practicing medicine. Another thing pertinent to public health is the prescribing of patent medicines over the radio. Many of the old remedies are being revived and one of the favorites is "Peruna," which used to be advertised in all church papers. Piso's consumption cure is another but now cures bronchitis! They are both back on the market with radio advertising. The new Food and Drug Bill known as the Tugwell Bill is now before the country. I don't know what you think about the bill but I believe we should get behind it and work for the protection of the people as well as ourselves.

Mrs. Solomon—Have you heard of the Committee on the "Costs of Medical Care?" I wonder if you know how much damage that Committee did to the medical profession in this country. For four or five years it sent out advance material for publication that was detrimental to the medical profession. We in the State Society saw the direction of its investigations from the beginning and it could be noted in the first clippings that came out that it was not going to be a constructive piece of work but rather a knock at the medical profession. The Committee (self-appointed) did not include the

\*Given before the Woman's Auxiliary of the Chicago Medical Society January 3, 1934.



general practitioners of medicine but Ph.D.'s, accountants and public health officers. Finally a few men, among them Doctor M. L. Harris, Doctor West and others were added to this committee. In the final report of the committee these doctors stood up for what they thought was right and tried to get proper protection for the people and the medical profession and brought in a "minority report" which has been quoted more than the Majority Report.

Mrs. Vanderslice—Let us consider two of the many foundations, the Milbank and the Rosenwald Foundations. We have great respect for the many fine things done by Mr. Rosenwald, such as the Industrial Museum on the south side, but such funds have also done many things detrimental to the medical profession. The Public Health Institute represents a thorn in the side of the medical profession and is at least encouraged by the Rosenwald Foundation. The Milbank Foundation contributed to the committee on "Cost of Medical Care." When you tear down the medical society you are doing serious damage to the health of the community. The health of a country is important and is the most valuable asset to the nation next to the government itself.

Mrs. Brumbach—Big business, banks, real estate, brokers—all have fallen down completely in the last five years. Everything that we have had, except government bonds, is almost worthless today. Our greatest men could not stop the terrible debacle through which we are going. Now President Roosevelt says that while we may not know just where we are going, we are on our way. But where to? No one knows. Suppose that medicine had fallen down as business has. Chicago would be depopulated in less than 10 years. New Orleans and New York would have bubonic plague, yellow and typhoid fever. The whole country would be in a terrible condition as in the dark ages. But medicine has not fallen down. Medicine has carried on during this period just as always. It has done its work well with little pay and will continue to do it, not until the depression is over but on and on to the end of the world.

Now, instead of talking to individuals, may I talk to you as a whole and perhaps include the county auxiliaries outside of Cook County. I want to stress four points which will help you in your Auxiliary work.

1. Contacts. The Educational Committee has been working for many years and it is concerned with all medical educational work. The Committee helps make contacts which we must have with every organization. You can increase your contacts in your women's clubs. You should be on committees so that you can help guide programs. You should belong to Parent Teacher Associations and local societies in your particular neighborhoods. All of these contacts are so important. In the Woman's Club in my district when illness kept my wife at home, a Doctor P. L. Clark of the south side came out and distributed literature condemning the medical profession and lauding his type of treatment. That program should never have been permitted in the club. The clubs need someone to guide them and you can do it.

2. I want you to become acquainted with our Medical Journals: In the *ILLINOIS MEDICAL JOURNAL*, *The Chicago Medical Society Bulletin*, Editorials in the *Journal*, *A. M. A.*, you will find many articles of help to your organizations. It is a means of disseminating information to Auxiliaries. You will find in your Journal reports on foods and nostrums and the editorials by Doctor Charles J. Whalen will keep you in touch with medical affairs. In these Journals you will find the answers to many puzzling statements that may be made by your friends and which probably need clarifying. Doctor's wives must be able to answer intelligently and discuss with knowledge the subjects brought up by the laity.

Knowledge is power. If every member of the Auxiliary would make it her business to keep herself informed, and informed intelligently and accurately on medical subjects she would do a great deal to overcome the statements made in newspapers and magazines, over the radio and by unqualified lecturers.

3. Make use of your State Medical Society. At the time Rush Medical College and the University of Chicago became engaged, about 1897, the value of the Presbyterian Hospital was discussed. You cannot place a money value on a hospital that has taken many years to build up. One million or even three million may be too little. It is not the buildings that are valuable but the personnel and the staff. So we have in the Educational Committee of the Illinois State Medical Society an organization that



we have built up at a cost of more than \$100,000 for the benefit of the public in the eleven years that we have been in existence. The women of the Illinois Auxiliary are much more fortunate than other state auxiliaries in having at their disposal the services of the Educational Committee. This Committee serves as a clearing house for health information and is the contact Committee for the medical profession and the laity.

Here you will find a storehouse of information on practically every health subject. The clipping files contain not only articles from medical journals but from all the better lay journals, as well as copies of radio talks, lectures and bulletins prepared by prominent physicians and health workers throughout the country. This material is compiled into package libraries, and is at the disposal of any interested person in the state. The Committee does not publish or print pamphlets or bulletins—it simply collects those prepared by other groups. Printing is very expensive and the Committee feels that it is not necessary to use in this way the small appropriation given to it to carry on a program. The American Medical Association and other organizations have bulletins and publications which may be secured for distribution, some of them free and others sold for small amounts.

If the members of the Auxiliary are ever called upon to prepare papers for clubs, they may obtain wonderful help by using one of the package libraries on the subject of their choice.

The Speakers' Bureau of the State Medical Society has served as an example and model to other State Societies. The Educational Committee has spent several years in building up a recognized list of speakers on popular health topics. This Speakers' Bureau has been widely used throughout the State, but the service can be considerably enlarged with the support of the Auxiliary. Let your friends know of this service which is given to the public by the doctors at their own sacrifice of time and money, in order that we may all become acquainted with the great advances in medicine, the new discoveries, etc. By securing speakers through the Bureau, the personal angle is overcome and for that reason we think it best to refer all calls to the Committee rather than to suggest individual speakers.

The Illinois Federation of Women's Clubs,

the Parent Teacher Associations, the Presidents of our colleges, the superintendents of our schools all recognize the Speakers' Bureau of the Illinois State Medical Society. The Woman's Auxiliary should seek to promote its use whenever possible and that should be before every club to which the individual members belong. It seems incredible that an osteopath or chiropractor should appear before a club to which a doctor's wife belongs without at least some very definite protest.

As you all probably know the Educational Committee sponsors at the present time five radio talks every week. Copies of these talks are on file in the office of the Committee and should be very interesting for Auxiliary meetings. They are all ten minutes in length.

The Committee has very close affiliation with the larger recognized groups of the State and we value these pleasant relations and wish nothing to interfere with them. We wish you to become better acquainted with our many friends.

4. You can do a lot to help organize new Auxiliaries in the State. I had an inquiry a few days ago from downstate asking if it was all right for two adjoining counties to join hands and make one Auxiliary. I could hardly answer the letter quickly enough to say yes. We want every Auxiliary possible throughout the State. The County Societies need them.

The Woman's Auxiliary has passed through the experimental stage and is now well established with a definite contribution to make to organized medicine. The fields of work and interest are necessarily limited but they are certainly broad enough to appeal to every doctor's wife in the State.

If you are to accomplish your high objective you must discard individualism and establish a partnership, not only among yourselves but a partnership with the medical profession. This is especially true in such an organization as an auxiliary to a medical society. By being banded together with a common purpose, the Auxiliary can be called upon by the medical profession at all times. It is easier to call upon a group well organized to assist in legislative propaganda, etc., than it is to call upon many individuals.

Every county should be organized where the medical profession is willing, and that is important, for in every piece of work carried on by the Illinois State Medical Society, support

of the local county medical society must be first secured. Then women must be found to take the lead. The Auxiliary is for all doctors' wives, not for a few who are willing to carry the load.

The personal contacts made by the women with each other will help in promoting better organizations among their husbands. President Theodore Roosevelt has said that if you are not willing to give a little time toward building up the work of an organization, then you should not belong to it. That brings up the importance of women working together for the big ideal of the Auxiliary which is "Service to the County and State Medical Societies."

### THE CLASSIFICATION OF HEART DISEASE\*

NATHAN S. DAVIS, III, A. B., M. D., F. A. C. P.

Assistant Professor of Medicine,  
Northwestern University Medical School

CHICAGO

Uniformity of nomenclature and uniform criteria for using the nomenclature are required for the most effective study of any kind of disease and in order that people working in different places may know that they are using the same terms for the same conditions. To satisfy these requirements with respect to heart disease, in 1923 the Association for the Prevention and Relief of Heart Disease adopted a nomenclature which it introduced into its various clinics. The American Heart Association later adopted this nomenclature. In 1932, this nomenclature was revised by enlarging the list of diagnostic titles, rearranging their order and grouping them under anatomical headings referable to the part of the cardiovascular system affected. In the 1932 edition of *Criteria for the Classification and Diagnosis of Heart Disease* published by the New York Tuberculosis and Health Association and approved by the American Heart Association, the criteria were also enlarged. A series of diagnostic terms for electrocardiographic interpretation with criteria for the use of these terms and a guide to radiological diagnosis were added.

"There are three main headings under each of which every patient with cardiac symptoms or signs should be classified. They are first, etiology; second, struc-

tural change; third, functional condition of the heart. In the past, as a rule, diagnosis has covered only structural or functional change; the functional ability of the heart—what the heart can do in maintaining the needs of the circulation—represents often, though not always, a more vital part of the diagnosis than does the anatomical change. Too little consideration has been given to the factors responsible for heart disease. The determination of the etiology, besides allowing for much greater accuracy in diagnosis, prognosis and treatment, aids materially in the advance of the great nation-wide movement for the prevention of heart disease." (White, P.D., and Myers, M.M.: *The Classification of Cardiac Diagnosis, With Especial Reference to Etiology*, *The American Heart Journal*, 1925, I, 1, p. 3.)

In the nomenclature approved by the American Heart Association, this plan is followed though the functional condition is divided into two parts, physiological diagnosis and functional capacity and two divisions, possible heart disease, and potential heart disease are added. From a study of the following tables it appears that a complete diagnosis should include a statement of the various structural changes that may be found in the heart or aorta, the cause of such changes, the changes in physiological function that may have resulted and the functional capacity of the patient with heart disease.

"Each diagnosis should include one or more titles from each of the groups, A, B, C and D. Should a diagnosis of normal heart be made, and a condition which might cause heart disease be found, the patient is placed in group F with a statement of the possible etiological factor. Should the diagnosis be in doubt, the patient is retained for further consideration under group E.

#### A. ETIOLOGICAL DIAGNOSIS

1. Anemia.
2. Arteriosclerosis.
3. Bacterial infection (specify if possible).
4. Congenital maldevelopment.
5. Emphysema, pulmonary.
6. Hypertension.
7. Other etiological factor (to be specified).
8. Psychoneurosis.
9. Reflex action.
10. Rheumatic fever.
11. Syphilis.
12. Thyroid disease.
  - a. Adenoma of thyroid.
  - b. Exophthalmic goitre.
  - c. Myxedema.
13. Toxic agent (specify if possible).
14. Trauma.
15. Unknown.

#### B. ANATOMICAL DIAGNOSIS

##### Aorta and Pulmonary Artery

1. Aneurysm of aorta (specify location).

\*Read before the Section of Medicine, Illinois State Medical Society, May 17, 1933, in Symposium on Heart Disease.

2. Aortitis.
  - a. Without dilatation.
  - b. With dilatation.
3. Arteriosclerosis of aorta.
  - a. Without dilatation.
  - b. With dilatation.
4. Arteriosclerosis of pulmonary artery.
5. Arteritis of pulmonary artery.
6. Congenital defect (specify lesion, if possible).
7. Embolism of pulmonary artery.
8. Injury (specify character of lesion).
9. Other disease of aorta or pulmonary artery (specify lesion).

#### Coronary Arteries

10. Aneurysm of coronary artery.
  11. Arteriosclerosis of coronary arteries.
  12. Arteritis of coronary arteries.
  13. Embolism of coronary artery.
  14. Endarteritis of coronary arteries.
  15. Other disease of coronary artery (specify).
  16. Periarteritis nodosa of coronary arteries.
  17. Thrombosis of coronary artery.
- #### Endocardium, Myocardium and Valves
18. Aneurysm of heart (specify location).
  19. Atrophy of heart (specify valve).
  20. Calcification of valve (specify valve).
  21. Congenital defect (specify lesion, if possible).
  22. Degeneration of myocardium (specify type, if possible).
  23. Dilatation of heart (chambers involved may be specified).
  24. Endocarditis, acute.
  25. Endocarditis, chronic.
  26. Endocarditis, subacute.
  27. Enlargement of heart (chambers involved may be specified).
  28. Fatty infiltration of heart.
  29. Fibrosis of endocardium.
  30. Fibrosis of myocardium.
  31. Fibrosis of valve (specify valve lesion).
  32. Hypertrophy of heart (chambers involved may be specified).
  33. Infarction of myocardium.
  34. Injury of heart (specify character of lesion).
  35. Myocarditis, acute.
  36. Myocarditis, chronic.
  37. Neoplasm of heart (specify type).
  38. No lesion of heart.
  39. Other lesion of heart (specify lesion).
  40. Rupture of heart (specify location).
  41. Rupture of valve (specify valve).
  42. Rupture of papillary muscle.
  43. Sclerosis of valve (specify valve lesion).
  44. Thrombosis within heart (specify chamber affected).
  45. Undiagnosed lesion of heart.
  46. Valvular disease, acute (specify valve lesion).
  47. Valvular disease, chronic (specify valve lesion).
    - a. Aortic insufficiency.
    - b. Aortic stenosis.
    - c. Mitral insufficiency.

- d. Mitral stenosis.
- e. Pulmonic insufficiency.
- f. Pulmonic stenosis.
- g. Tricuspid insufficiency.
- h. Tricuspid stenosis.

#### Pericardium

48. Adherent pericardium.
49. Calcification of pericardium.
50. Congenital defect of pericardium (specify lesion).
51. Hemopericardium.
52. Hydropericardium.
53. Injury of pericardium (specify character of lesion).
54. Neoplasm of pericardium.
55. Pericarditis, acute.
  - a. Serofibrinous.
  - b. Purulent.
  - c. Hemorrhagic.
56. Pericarditis, chronic.
  - a. Serous.
  - b. Adhesive.
57. Pneumopericardium.

#### C. PHYSIOLOGICAL DIAGNOSIS

1. Adams-Stokes syndrome.
2. Anginal syndrome.
3. Arrhythmia (undiagnosed).
4. Auricular fibrillation.
  - a. Paroxysmal.
  - b. Chronic.
5. Auricular flutter.
  - a. Paroxysmal.
  - b. Chronic.
6. Auriculoventricular block.
  - a. Prolonged conduction time.
  - b. Incomplete.
  - c. Complete.
7. Bundle branch block.
8. Cardiac insufficiency.
9. Other arrhythmia (specify).
10. Paroxysmal tachycardia.
  - a. Auricular.
  - b. Junctional.
  - c. Ventricular.
  - d. Unknown origin.
11. Premature contractions.
  - a. Auricular.
  - b. Junctional.
  - c. Unknown origin.
12. Pulsus alternans.
13. Regular sinus rhythm.
14. Sinus arrest.
15. Sinus arrhythmia.
16. Sinus bradycardia.
17. Sinus tachycardia.
18. Valvular incompetency.
  - a. Aortic incompetency.
  - b. Mitral incompetency.
  - c. Pulmonic incompetency.
  - d. Tricuspid incompetency.
19. Ventricular escape.



20. Ventricular fibrillation.

21. Wandering pacemaker.

#### D. FUNCTIONAL CAPACITY

1. Patients with organic heart disease, able to carry on ordinary physical activity without discomfort.

2. Patients with organic heart disease, unable to carry on ordinary physical activity without discomfort.

a. Activity slightly limited.

b. Activity greatly limited.

3. Patients with organic heart disease and with symptoms or signs of heart disease when at rest, unable to carry on any physical activity without discomfort.

#### E. POSSIBLE HEART DISEASE

Patients in whom the diagnosis of heart disease is uncertain but who show abnormal signs or symptoms referable to the heart.

#### E. POTENTIAL HEART DISEASE

Patients without circulatory disease whom it is advisable to follow because of the presence or history of an etiological factor which might cause heart disease. (Etiological factor to be specified as in Section B.)

Key for the Interpretation of Electrocardiograms

##### Sinus Rhythms

1. Regular sinus rhythm.

2. Sinus tachycardia.

3. Sinus bradycardia.

4. Sinus arrhythmia.

5. Sinus premature contraction.

6. Sinus arrest.

##### Auricular Rhythms

7. Auricular premature contraction.

8. Auricular tachycardia.

9. Auricular flutter.

10. Auricular fibrillation.

11. Wandering pacemaker.

##### Junctional (Auriculoventricular Nodal)

##### Rhythms

12. Junctional (auriculoventricular nodal) premature contraction.

13. Junctional (auriculoventricular nodal) rhythm

##### Ventricular Rhythms

14. Ventricular premature contraction.

15. Ventricular tachycardia.

16. Ventricular fibrillation.

17. Idioventricular rhythm.

18. Ventricular escape.

##### Rhythms of Unknown Origin

19. Premature contractions (unknown origin).

20. Tachycardia (unknown origin).

##### Impulse Conduction

21. P-R interval .20 second or below.

22. P-R interval above .20 second.

23. Incomplete auriculoventricular block, dropped beats.

24. Complete auriculoventricular block.

25. Bundle branch block.

26. QRS width .10 second or less.

27. QRS width exceeds .10 second.

##### Deviation of Electrical Axis of QRS

28. No deviation of electrical axis.

29. Deviation of electrical axis, right.

30. Deviation of electrical axis, left P wave.

31. Normal voltage of P wave.

32. High voltage of P.

33. Low voltage of P.

34. Split P wave.

35. P wave inverted (indicate lead by sub-number).

##### QRS Group

36. Normal voltage.

37. Low voltage.

38. High voltage.

39. Deep Q wave.

40. QRS slurred or splintered.

##### S-T (or R-T) Segment

41. S-T (or R-T) segment iso-electric at origin.

42. Elevation of S-T (or R-T) segment at origin.

43. Depression of S-T (or R-T) segment at origin.

44. S-T (or R-T) segment showing an upward or a downward inclination away from the iso-electric line.

##### T Wave

45. T wave upright in all leads.

46. T wave high voltage.

47. T wave low voltage.

48. T wave inverted (indicate lead by sub number).

##### Miscellaneous

49. Prominent U wave.

50. Artefacts.

51. Unusual conditions not listed above.

#### Guide to Radiological Diagnosis in Heart Disease

1. Normal Heart.

a. Horizontal.

b. Vertical.

c. Hypoplastic.

d. Globular.

2. Enlargement of the Left Ventricle.

a. Moderate.

b. Marked.

3. Enlargement of the Right Ventricle.

a. Moderate.

b. Marked.

4. Enlargement of the Pulmonic Conus.

a. Moderate.

b. Marked.

5. Enlargement of the Left Auricle.

a. Moderate.

b. Marked.

c. Horizontal.

d. Vertical.

e. Left auricle appearing on the right cardiac border.

6. Enlargement of the Right Auricle.

a. Moderate.

b. Marked.

7. Generalized Cardiac Enlargement.

a. Moderate.

b. Marked.

8. Elongation of the Ascending Aorta.

a. Moderate.

b. Marked.

9. Elongation and Tortuosity of the Ascending Aorta.

a. Moderate.

b. Marked.

10. Dilatation of the Ascending Aorta.
  - a. Moderate.
  - b. Marked.
11. Dilatation of the Supraventricular Portion of the Ascending Aorta.
  - a. Moderate.
  - b. Marked.
12. Dilatation of the Aortic Arch.
  - a. Moderate.
  - b. Marked.
13. Calcification of the Aorta.
14. Dilatation of the Descending Aorta.
  - a. Moderate.
  - b. Marked.
15. Diffuse Dilatation of the Thoracic Aorta.
  - a. Moderate.
  - b. Marked.
16. Narrowing of the Aorta.
  - a. Right high position of the aorta.
  - b. Riding aorta.
17. Aneurysm of the Aorta.
  - a. Ascending limb.
  - b. Transverse portion.
  - c. Aortic arch.
  - d. Descending limb.
18. Enlargement of the Pulmonic Artery.
  - a. Moderate.
  - b. Marked.
19. Stasis in Pulmonary Circulation.
  - a. Dilatation of the hilar branches.
    - (1) Moderate.
    - (2) Marked.
  - b. Diffuse form.
    - (1) Moderate.
    - (2) Marked.
20. Widening of the Brachiocephalic Vessel-group.
  - a. Moderate.
  - b. Marked.
21. Pericardial Effusion.
22. Pericardial Concretion.
23. Calcification of the Pericardium.
24. Displacement of the Heart.
  - a. Moderate.
  - b. Marked.
25. Distortion of the Heart.
  - a. Without enlargement.
  - b. With enlargement.

To illustrate how satisfactory this nomenclature proves to be in an analysis of a cardiac patient, the following diagnoses are added:

- Heart Disease: A. Active Syphilis; B. Aortitis with dilatation, Aneurysm of the Ascending aorta; C. Regular sinus rhythm; D. Class 2a.
- Heart Disease: A. Inactive rheumatic fever (chorea); B. Valvular disease, mitral insufficiency and stenosis; C. Auricular fibrillation; D. Class 2b.
- Heart Disease: A. Hypertension; B. En-

largement of the heart with some fibrosis of the myocardium; C. Premature contractions, left ventricular; D. Class 2a.

—Heart Disease: A. Thyrotoxicosis; B. Dilatation of the heart; C. Auricular fibrillation; D. Class 3.

—Heart Disease: A. Arteriosclerotic; B. Coronary thrombosis with angina, recent infarction; C. Normal rhythm; D. Class 3.

—Heart Disease: A. Arteriosclerotic; B. Old coronary thrombosis without pain, healed infarct; C. normal rhythm, severe congestive heart failure; D. Class 3.

Limitation of time has made it impossible to more than outline a classification of heart disease and criteria for its use which are the most comprehensive and accurate so far devised. It should be universally adopted that vital statistics may become more intelligible, that physicians working in different parts of the country may know that they are using the same terms for the same conditions, that the accurate management of patients with heart disease may be promoted, and that the movement for the prevention of heart disease may be advanced.

#### ACUTE INFECTIOUS MYOCARDITIS\*

JAMES G. CARR, M. D.,

AND

JAMES A. WALSH, M. D.

EVANSTON, ILLINOIS

Interest in the morphological alterations of the cardiac muscle which result from the acute infections is not of recent origin. "The original observations were concerned with the form, color, and consistency of the heart muscle." Virchow described the degenerative changes of the myocardium during typhoid fever. Romberg, in 1890, first clearly demonstrated the frequency and importance of acute interstitial myocarditis in typhoid fever, scarlet fever, and diphtheria. In 1905, Schmaltz wrote, "Every type of infection of the organs of circulation is able to do damage, and there occurs a continuous change of phenomena and transitions from the lightest, evanescent changes, usually not recognized as pathological, up to severe permanent impairment, or, such as leads quickly to death, to all

\*Read before Section on Medicine, Illinois State Medical Society, Peoria, May 17, 1933, in Symposium on Heart Disease.

of which stages of the disease a widely different practical significance attaches."

Since these early publications there have been many contributions to the literature on the subject of acute myocardial change in the course of acute infections, specific and non-specific. Many of these have discussed, more or less extensively, particular phases of the subject such as, auriculo-ventricular dissociation, ectopic beats of whatever origin, various changes which are observed only in the electrocardiogram, as well as the symptoms and clinical signs suggestive of myocardial disease. Recently the electrocardiograph has been the means of obtaining certain objective evidence of myocardial involvement which would have eluded detection by the older methods of investigation. Partly to emphasize these newer features, and, partly to again direct attention to the frequent occurrence of acute myocarditis in the course of even minor infections, we present our observations.

In our experience acute infectious myocarditis has often followed diseases with a clinically mild course in which one would least expect complications of serious import. The majority of the patients had pharyngitis, tonsillitis, tracheo-bronchitis, or a mild influenza. This is in accord with the observations of other clinicians who have commented particularly upon the occurrence of severe cardiac complications in the most simple cases. In our series of cases there has been a preponderance of female patients, but this permits no reliable conclusion as to an especial sex predisposition because of the number of student nurses coming under our care. Nor does age seem to be a specific factor, although all of our patients were under fifty years of age, and most of them young women. All were people in good economic circumstances, and in no instance did there appear to be a special constitutional diathesis to infectious disease.

The clinical recognition of these cases is of utmost importance. The subjective symptoms of acute infectious myocarditis are chiefly those of diminished myocardial power. The onset is insidious and the disease, therefore, all the more treacherous. One may be inclined to accept the condition as an effort syndrome during convalescence such as is often observed after any illness. Yet this diagnosis is not warranted unless one is able to demonstrate that no cardiac affection exists. Complaints indicative of mild

congestive failure may be elicited. Early in the clinical course these will consist of fatigue, weakness, pallor, palpitation, anxiety, and precordial aching. If the disease is unrecognized and progresses, more advanced symptoms will make their appearance. The patient begins to notice a shortness of breath, a mild orthopnea usually described as a sensation of smothering relieved by elevation, gastro-intestinal distress varying from a loss of appetite to nausea and vomiting, and a slight swelling of the ankles at the end of the day. With further myocardial insufficiency the well known symptoms and signs of advanced congestive failure will appear. Disorders of rate and rhythm may be present with or without other symptoms. Obviously the minor symptoms may be difficult to explain, and the diagnosis often depends upon graphic evidence for confirmation. Heart block of various degrees, frequent ectopic contractions, and changes in the form of the electrocardiographic complexes are the most common objective signs. In two of our cases convalescence was marked by the development of anginal disease. In one of these, in addition to the symptoms and signs of congestive failure, there occurred typical attacks of angina pectoris. In the other, there was not the paralyzing pain of a true angina, but a substernal aching upon exertion, for which we have used the term "stenocardia."

The objective findings in acute infectious myocarditis are quite as illusive and deceptive as are the subjective symptoms, if one does not consider the possibility of such a complication. The persistence of a slight intermittent fever, with an afternoon rise of temperature rarely over one hundred degrees, may be completely overlooked. The patient is observed during the acute stage of the infectious disease, but with the subsidence of the more distressing symptoms, the clinical course is not followed accurately, and the low grade fever is missed. A leucocytosis with a predominance of polymorphonuclear cells, if sought for, usually may be found. The general appearance of the patient suggests that all is not well. There is an expression of worry and fatigue especially in the older patients. A moderate cyanosis may be detected as a sign of a weakened myocardium. The examination of the heart itself frequently reveals no abnormality. The gross irregularities of rhythm are easily detected, but conduction disturbances cannot



be diagnosed in most instances without instrumental assistance. The borders of the heart will not be changed perceptibly except in the most severe cases where dilatation has occurred. A diminution in the intensity of the tones is a sign to which too little importance is attached, and yet it may be the only evidence of poor function. If murmurs develop during the course of the illness, though we have found this to be an infrequent occurrence, they may be explained thus: apical systolic murmurs probably mean involvement of the mitral valve by endocarditis, basal murmurs are without significance. It is by means of the electrocardiograph that we are able to change the diagnosis from one of conjecture to one of certainty in the majority of cases. Auriculo-ventricular block with simple prolongation of the conduction time as evidence of myocardial pathology, can be demonstrated only by graphic means. Aberrations in the Q-R-S complexes are commonly seen, manifested by slurring, low amplitude, and R-T or S-T interval abnormalities. A change in the T waves is important. These may be of low amplitude or inverted. Such evidence cannot be ignored. It confirms the diagnosis especially in cases with doubtful clinical signs and symptoms.

The diagnosis of the disease is therefore possible. The presence of minor symptoms and signs of heart disease following an acute infectious disease should prompt one to an exhaustive study by every available means, to confirm the presence or absence of organic disease. As we have indicated, the electrocardiograph is of great value, and we urge that those who have an instrument available make prompt and frequent use of it. It is not sufficient to conclude that there is neurocirculatory asthenia, and to be satisfied with such an opinion, without objective study to rule out actual pathology.

The management of these cases is simple in so far as the active treatment is concerned. However, one will frequently find it difficult to convince the patient of the seriousness of an illness which presents in some instances only minor symptoms, or none at all. It has been our custom to enforce absolute bed rest until there have been eight to ten days of normal temperature, and the pulse has been stable at a normal rate. The patient is then allowed to be out of bed, at first only to sit up, and finally

to assume normal activity gradually. During this time the temperature should be observed carefully, for one will sometimes find that fever recurs, whereupon the regime must be begun anew. Digitalis may be prescribed for the relief of the symptoms of congestive failure. A warning may well be added against the removal of teeth, tonsils, or any attack upon a presumed focus of infection. When this is done during the febrile state, or too soon thereafter, serious harm may result. Adequate rest is the main requirement in the therapy of the disease.

#### CASE HISTORIES

Case 1. A woman, aged 44, entered the hospital because of an acute pelvic peritonitis. She gave a history of an irregular and rapid heart beat, and some swelling of the ankles since a cold the previous winter. The physical findings relative to the heart revealed an irregular rhythm with an occasional dropped beat, the area of cardiac dullness just outside the mid-clavicular line on the left, and distant heart tones. The electrocardiogram showed a sinus rhythm with a rate of 100, a P-R interval of 0.26 seconds, the Q-R-S complexes in lead three split and slurred, and diphasic T waves in all leads. Four days later the only change in the graph was an increase in the conduction time to 0.34 seconds.

Case 2. A student nurse, aged 19, entered the hospital on February 19, 1932, with an attack of influenza. Following this the pulse remained rapid and weak, the fever persisted, and leucocyte count became as high as 13,050. There was a distinct though not loud musical murmur, systolic in time, about an inch above the apex. The electrocardiogram of February 27 showed the Q-R-S complexes slurred in lead one, isoelectric T waves in lead one, and T waves of low amplitude in leads two and three; that of March 10, T waves of low amplitude in lead one, diphasic T waves in lead two, and inverted T waves in lead three; and that of March 28 upright T waves of low amplitude in all leads. This patient was seriously ill with pneumonia in January, 1933. An electrocardiogram taken after recovery from this illness was essentially normal.

Case 3. A student nurse, aged 21, was hospitalized in March, 1932, for seven days because of an influenza. An electrocardiogram showed diphasic T waves in lead two, and inverted T waves in lead three. Six months later she was admitted with an attack of nausea, vomiting, frequency of bowel movements, and severe headache. She had not felt well since the illness in March. After one week the symptoms subsided and she was without complaints, but fever, tachycardia, and leucocytosis persisted. The only objective localizing findings were those in the electrocardiograms. Abnormalities of the T waves were present at all times. She was kept in the hospital thirteen weeks. An electrocardiogram taken three months after discharge was entirely normal.

Case 4. A woman, aged 34, was admitted complaining of anorexia, malaise, exhaustion, easy fatigue, short-

ness of breath upon exertion, soreness and aching in the chest, palpitation, a rapid heart rate followed by an unusually slow rate, and pains in the hands, knees, and shoulders. She had had an acute tonsillitis for one week a month prior to admission. Examination revealed an irregular rhythm with frequent ectopic beats, distant heart tones, a heart rate of 60, and a palpable, tender liver. No murmurs were audible. There was a moderate leucocytosis. During the five and a half months that she spent in the hospital there appeared the signs of aortic and mitral endocarditis. The initial electrocardiogram showed ectopic beats of nodal origin producing an almost complete bigeminal rhythm, a P-R interval of 0.24 seconds, and slurred R waves of low amplitude in lead one. Eight days later there were no ectopic beats, the P-R interval was 0.22 seconds, the R waves were slightly slurred in all leads. In the seventh week some of the complexes showed a prolonged conduction time with frequent failure of ventricular response. A few days before discharge the only abnormality noted was a slight slurring of the Q-R-S complexes.

Case 5. A man, aged 27, complained of fatigue, headache, shortness of breath, precordial distress, and a rapid pulse following a cold seven weeks prior to admission. Two weeks before entrance he had fainted. Examination revealed a slight cyanosis, a systolic basal murmur, and distant heart tones. There was no fever, the pulse rate was normal, but there was a persistent leucocytosis. The electrocardiogram showed slurred R waves in lead one, slurred S waves in all leads, and depressed T waves in lead three.

Case 6. A woman, aged 33, complained upon admission of shortness of breath during the day and sudden attacks at night, pain over the heart, swelling of the ankles, and a rapid and irregular heart beat. These symptoms appeared after an attack of influenza. Examination revealed a moderate cyanosis of the lips and nail beds, a faint apical systolic murmur, distant heart tones, and a slight bilateral edema of the ankles. There was a six to seven per cent. enlargement of the heart. The electrocardiogram showed a slurred R wave in lead three, and an inverted T wave with an early take-off from the descending limb of the R wave in the same lead. The diagnosis of myocarditis in this case was based upon the clinical findings.

Case 7. A woman, aged 46, following an attack of influenza noted a burning sensation over the chest and neck, aching in the arms, shortness of breath upon exertion, weakness, and a substernal aching upon exertion and exposure to cold air. A roentgenogram revealed a ten per cent. enlargement of the heart. In the electrocardiogram the T waves were practically isoelectric in all leads. This was probably an acute myocarditis superimposed upon an early myofibrosis.

Case 8. A woman, aged 42, was readmitted to the hospital after apparent recovery from an attack of influenzal pneumonia. She complained of a persistent cough, shortness of breath upon exertion, a sense of constriction within the chest, precordial pain, and pain

radiating down the left arm. Examination revealed a definite cyanosis, and moist rales were heard at the base of both lungs. An x-ray film showed an exaggerated bronchial tree, and a heart configuration suggestive of a mitral lesion. The electrocardiogram was normal. While in the hospital she had an attack of acute appendicitis, was operated upon, and was without complaint for ten days. She then experienced two attacks of angina pectoris, relieved by nitroglycerin, and complained of dyspnea, and had a persistent substernal distress. The electrocardiograms remained normal. She was sent home to convalesce. Two years later she is still confined to bed most of the time. Upon the basis of her history, although there was no evidence of mitral disease, we are inclined to believe that there had been previous damage to the myocardium.

Case 9. A student nurse, aged 21, was admitted with an influenzal bronchopneumonia. An electrocardiogram on the third day showed a slurred R-S of low amplitude in lead one, T waves of low amplitude in lead one, diphasic T waves in lead two, and inverted T waves in lead three. The following day the T waves were of lower amplitude in all leads. The T waves were erect in all leads but of low amplitude on the eighth day. On the seventeenth day the T waves were inverted in lead one, erect but of low voltage in leads two and three, and on the twenty-fourth day they were inverted in all leads. Six weeks after her discharge from the hospital, the electrocardiogram was essentially normal.

Case 10. A student nurse, aged 23, was admitted to the hospital shortly after recovery from an influenza with an acute pharyngitis of marked severity. These symptoms subsided after ten days but the fever and leucocytosis persisted. The only localizing findings were in the electrocardiograms which were taken repeatedly. These consistently showed a slight slurring of the Q-R-S complexes and an elevation of the R-T interval in leads two and three. This patient was hospitalized fifty days and discharged after seventeen days of normal temperature. An electrocardiogram taken one month later showed some improvement. The R waves were slurred in lead one and slurred on the downstroke in lead three. The T waves in leads two and three had an early take-off but from the base line. The patient had resumed active duty and had no complaints.

Case 11. A man, aged 29, was sent to the hospital for observation because of an irregular pulse. Three weeks prior to admission he had had an acute upper respiratory infection. Examination revealed a heart rate at the apex of 114, and a pulse rate at the wrist of 90. After exercise the apex rate was 122, and that at the wrist 100. There was no fever. The leucocyte count was 11,350. The electrocardiogram revealed a partial heart block manifested by the P-R interval lengthening progressively to the completely blocked ventricular contraction, giving rise to the "Wenckebach" periods at the time of the dropped beats. An electrocardiogram taken two months later was essentially normal.



## CORONARY ARTERY DISEASE\*

DON C. SUTTON, M. S., M. D.

CHICAGO

From the Department of Medicine, Northwestern University

When one speaks of coronary artery disease it is well to remember that he is not speaking of a disease entity, but only of the immediate effects upon the heart of a much more generalized disease—arteriosclerosis.

As a consequence, only too frequently those presenting essentially cardiac symptoms become either disabled or succumb to the effects of arteriosclerosis in some other organ, as the brain (apoplexy), the kidney (uremia), or through peripheral gangrene.

Since arteriosclerosis, although exceptionally affecting those in the earlier decades of life, is a disease involving increasing numbers of individuals in each of the later decades of life, becoming practically universal after the age of 60, we may expect to find the most frequent evidence of coronary artery involvement after that age.

Because there are no typical physical changes in coronary artery disease, the history obtained from the patient is often the only reliable data we have. The electrocardiographic changes peculiar to coronary artery disease, namely, widening and distortion of the Q. R. S. complex and not infrequently inversion of the T, offer definite information of disturbances of intraventricular conduction. However, when one has seen many patients with most marked changes in the electrocardiogram go for years apparently in excellent health, or, again, others with little or no evident change in the electrocardiogram who may die suddenly or suffer severe myocardial failure, the more of these one sees, the more cautious he becomes in the interpretation of slight changes in the electrocardiogram.

After all, our judgment of the particular individual is based on observation of his physical reactions, his changes as shown on successive physical examinations, and if such changes are corroborated by the electrocardiogram, well and good; if not, should a patient be damned because someone diagnoses coronary artery disease from the electrocardiogram alone?

Arteriosclerosis of the coronary arteries may

be symptomless or without physical evidence. When manifest clinically, it occurs as two outstanding syndromes, which may occur alone or in combination, namely, heart pain, angina pectoris, or increasing failure of the myocardium. Apparently the only stimulus causing a painful reaction in the myocardium is a diminution or complete stoppage of blood flow through a coronary artery or one of the branches.

Recently, a 40-year-old woman was seen with a rapidly progressing aplastic anemia. She had never had an attack of angina pectoris. When the red blood cell count fell below 2,000,000 per cubic millimeter, the exertion of using the bed pan or turning in bed was sufficient to produce a typical attack of angina pectoris, which was promptly relieved by 1/100 grain of nitroglycerin. Following a transfusion with whole blood and an increase in the red blood cells to 3,000,000, the attacks of precordial pain disappeared, to reappear when the red blood cells again fell to 2,000,000. The same story recurred three times before and after three whole blood transfusions.

At necropsy the coronary arteries were found to be normal. In this case there was not a decreased flow of blood through narrowed coronary arteries, but a decrease of the oxygen-carrying elements.

A young woman, 25 years of age, suffering with an extreme thyrotoxicosis, and having a heart rate of 160 to 180 per minute, frequently complained of a typical angina pectoris pain upon slight exertion. Since recovery from the thyrotoxicosis she has had no further attacks. Her cardiac pain was not due to diseased coronary arteries, but to a relative decrease in coronary flow in a rapidly beating heart.

Both Wenchebach and McKenzie believe that the discomfort experienced by athletes before acquiring the second wind is the same as that felt in an attack of angina pectoris. In fact a patient of mine volunteered the information that as a young man of 20 years he experienced after extreme exertion a pain exactly like that he now feels with an attack of true angina pectoris.

When one observes the marked variation in the location, extent and severity of involvement in arteriosclerosis, it is not surprising that there is not only variation in the severity of pain after exercise, but also marked variation in the amount of exertion required at various times to

\*Read before the Section on Medicine of the Illinois State Medical Society, Peoria, May 17, 1933, in Symposium on Heart Disease.



bring about an attack of pain. Accordingly, great differences in the severity of pain is observed, varying from very slight substernal or precordial pain to the most extreme anguish. A very important factor in such variability of pain is the size of the coronary artery involved; the larger the artery, the more severe the pain.

A second variable factor, not only in different hearts but probably also varying at different times in the same heart, is the amount of anastomosis between the various arterial branches of the coronary arteries. The degree of anastomosis increases with age, and therefore the older the subject the greater the possibility of recovery from complete obstruction of an artery. At times these anastomoses are sufficiently great to prevent the formation of an anemic infarct. They certainly play a similar role in varying the degree of pain in angina pectoris.

The effects of an attack of angina pectoris are usually transitory. The attack brought on by any factor increasing heart work, emotion, nocturnal dreams, digestion, but most frequently by exercise, usually ceases promptly with rest—a rest period allowing prompt recovery of the muscle from blood want. The severe attacks may at times leave the patient severely prostrated, because of the general shock and possibly because of temporary myocardial insufficiency. Rarely, sudden death occurs during an anginal attack because the irritability of the involved area precipitates a ventricular fibrillation.

More commonly when death occurs in cases of angina pectoris it is due to coronary thrombosis. In such an accident the patient experiences an attack of pain, usually at first similar to an ordinary attack of angina pectoris, with the exception that neither rest nor the administration of nitrites gives relief from pain. There may be exceptions to the immediate effect of the nitrites. Occlusion of an artery by thrombosis is often slow, so if nitrites are given there is a sufficient increase of coronary flow to temporarily relieve the pain. I have seen periods of several hours, during which every few minutes additional doses of nitrites would relieve the pain, until the artery became completely closed, when they ceased to affect the pain.

Repeated attacks of anginal pain at frequent intervals during rest, practically always are evidence of a slowly forming thrombosis. Rarely the thrombosis never completely closes the artery,

in which case the patient recovers with recanalization of the thrombus. Frequently the pain of coronary thrombosis is not referred to the same areas as those of a true anginal attack. The most frequent atypical point of reference is to the upper abdomen. As a consequence, its differentiation from acute accidents in the abdomen may be extremely difficult and at times impossible.

Probably one of the most important points in favor of a coronary thrombosis is a rapid fall in blood pressure. Acute increase in the transverse diameter of the heart is also frequently noted. When present, a pericardial friction is absolutely diagnostic, and is often heard within twelve hours of the accident.

Coronary thrombosis without pain is not a rare occurrence. It may happen during severe cardiac illness, as acute endocarditis or marked decompensation where it is overshadowed by the acute illness, and it is not suspected until discovered at necropsy. In other cases the only evidence of the attack may be an extreme dyspnea. At times when the left ventricle is involved, the dyspnea may accompany an acute pulmonary edema, with the expectoration of a foamy pink fluid. (Often the only effective method of relieving acute pulmonary edema is by a copious venesection.)

After all, only a relatively small number of cases of coronary arteriosclerosis suffer the pains of angina pectoris. For the greater number of cases the effect is the gradual degeneration of small areas of cells, which, if you wish, die of starvation and are replaced by areas of fibrosis. Therefore, the common terminology of chronic fibrous myocarditis. Such scarring, along with the diminished blood flow to the remaining more or less normal muscle fibers, leads to gradual heart failure. The symptoms of such failure are those of any cardiac decompensation, edema, ascites, hydrothorax, and dyspnea. At times the acute failure is precipitated by one of the irregularities of rhythm, most frequently auricular fibrillation, rarely paroxysmal tachycardia or auricular flutter. In other cases premature contractions or pulsus alternans may be present. Pulsus alternans is always of serious significance, with or without other evidence of serious heart disease.

We then have two syndromes, heart pain, including coronary thrombosis, and chronic myo-

carditis, both of which are due to restricted blood flow through coronary arteries which have become inelastic, fibrosed or calcareous. Fortunately, such changes are not uniform throughout the length of a single vessel, nor are all the vessels necessarily involved. So long as there are normal vessels there is the possibility of effective therapy by the use of drugs which dilate these vessels, by causing an increased flow of blood through the coronary arteries, when diastolic blood pressure is increased or the coronary vessels are dilated, or both.

There are two groups of drugs which increase the rate of flow through the coronary arteries by increase of their calibre:

1. *The Nitrites*: Nitroglycerine or amyl nitrite produce almost instantaneous dilatation of the coronary arteries and therefore relieve an attack of angina pectoris immediately. Unfortunately, the duration of their action is so short that they are of value only in the treatment of the attack. Nitroglycerine on the whole is preferable, not because it is better, but because individuals have no hesitation about slipping a 1/100 grain tablet under the tongue, who hesitate to resort to the publicity attendant upon the explosion and ensuing odor following the breaking of an amyl nitrite pearl.

2. *The theobromine group*: There is a second group of drugs that have been proved both clinically and experimentally to markedly increase coronary flow, namely, the caffeine theobromine group.

This group produces effective increase in coronary flow, neither as promptly nor to as great a degree as the nitrites, but the action is prolonged and of sufficient degree to often cause complete relief from anginal attacks.

The effectiveness of coronary dilators depends very largely upon the degree of sclerosis present. Therefore in extreme arteriosclerosis neither the nitrites nor the theobromines may be effective. In this manner the degree of effectiveness may be used as an index of prognosis. This group contains caffeine, which is the least effective of the group, which also has the disadvantage of producing cerebral stimulation.

The theobromine compounds are efficacious as coronary artery dilators, produce little cerebral stimulation, but many of them produce gastric irritation.

*Metaphyllin* is one of the most effective of the group, but is likely to irritate the gastric mucosa. *Theocin* (gr. x t. i. d.), *Diuretin* (gr. x t. i. d.), *Theocalcin* (gr. viiss t. i. d.) usually can be given over very long periods of time without gastric irritation. *Phyllicin* (gr. ii to iv t. i. d.), which we have used extensively is an excellent coronary artery dilator, and very rarely causes gastric irritation. When any of these compounds are taken in the middle of a meal instead of before or after, they are much less likely to produce nausea. After coronary artery disease has been diagnosed, whether angina pectoris or myocarditis, one of these drugs should be given as long as the patient lives.

#### SUMMARY

1. Coronary artery disease is only a part of a generalized arteriosclerosis.

2. The effect of arteriosclerosis of the coronary arteries is decrease of blood flow to the myocardium, causing either heart pain or muscle failure.

3. The nitrites and theobromine dilate the normal vessels, and thereby increase the blood flow to the myocardium.

30 North Michigan Ave.

#### AURICULAR FIBRILLATION.\*

C. C. MAHER, B. S., M. D.

Assistant Professor in Medicine, Northwestern University, and  
Passavant Memorial Hospital. Attending Internist,  
Cook County Hospital.

CHICAGO

Auricular fibrillation has been chosen as a subject for this discussion because of the frequency with which it is encountered as a part of cardiac disease, and also because of the serious aspect that it adds to the patient's prognosis.

Auricular fibrillation is a state of abnormal cardiac physiology in which the auricles have lost their normal contractability. The auricular musculature is in a state of fibrillary twitching from which the entity derives its name. The role of the pacemaker (Sino-Auricular Node) is usurped by the auricular activity which sends forth stimuli to the ventricles at a rate of 400 to 600 per minute. The ventricles respond to these auricular stimuli at irregular intervals. The ventricular contraction rate varies from 40

\*Read before Section on Medicine of Illinois State Medical Society, Peoria, May 17, 1933, in Symposium on Heart Disease.



to 180 per minute. This phenomenon is clearly registered by the electrocardiograph (Fig. 1).

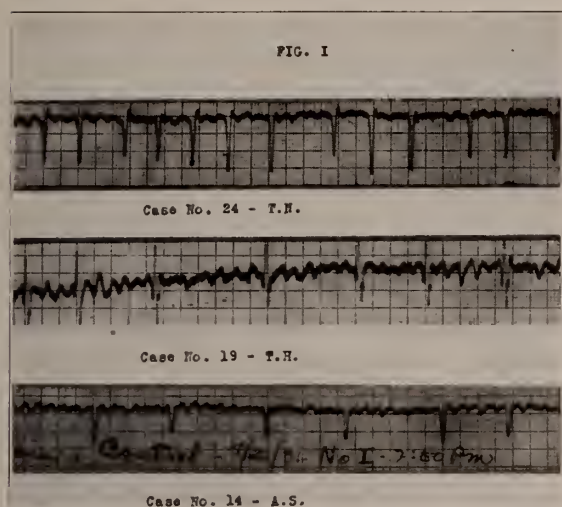


Fig. 1. The irregular wavy baseline shows the auricular activity and the larger waves are the ventricular contractions. These tracings were made by direct leads from the left chest wall.

There are two theories concerning the abnormal physiology of auricular fibrillation. The older and better known one was advanced by Sir Thomas Lewis of the University Hospital in London. His theory is concerned with what he terms "circus movement in the auricles." It implies that a stimulus arises in an ectopic auricular focus and pursues a very rapid rate and course about the venous openings in the right auricle. The other theory advanced by the school of German cardiologists has received less publicity than the theory of Lewis. They

another so that the auricles never contract in the normal manner but are in a state of fibrillary twitching. The latter theory is the more logical one and has more abundant proof to substantiate it than that of Dr. Lewis.

From a clinical standpoint we recognize that there are various types of cardiac disease in which auricular fibrillation is present as a complicating abnormal physiological mechanism. The most frequent type of heart disease with which it is associated is rheumatic mitral stenosis. Next in frequency is hypertensive vascular disease in which auricular fibrillation develops after years of high blood-pressure. The patient who has a goiter with thyrotoxicosis not infrequently develops auricular fibrillation as a complication. Patients who have sustained an occlusion of a coronary vessel with myocardial infarction frequently develop this type of abnormal physiology. Any type of toxemia such as that resulting from prostatic obstruction may develop auricular fibrillation. It is sometimes present in the more acute infections, such as pneumonia, typhoid fever or influenza. It may result from the abuse of digitalis. Rarely, we see a patient in which there is no demonstrable structural cardiac damage.

Auricular fibrillation may be classified into two main groups:

1. Paroxysmal.
2. Chronic.

The chronic type is the more frequent but it is usually preceded by the paroxysmal type, which often escapes observation.

Perhaps it is academic for me to review the symptoms and the pathognomonic findings which characterize auricular fibrillation. The very striking absolute irregularity of the cardiac beat at the apex or of the pulse at the wrist is sometimes sufficient to make an accurate diagnosis. Frequently, however, its recognition is not so simple.

The paroxysmal type of auricular fibrillation is most easy of detection. In these cases the onset is extremely abrupt. The individual suddenly notices that his heart begins to beat rapidly, and, if he is a careful observer, notes that it is irregular. The majority, however, fail to recognize the irregularity. The paroxysm of tachycardia may persist for only a few seconds or minutes or it may last for hours, or days, or

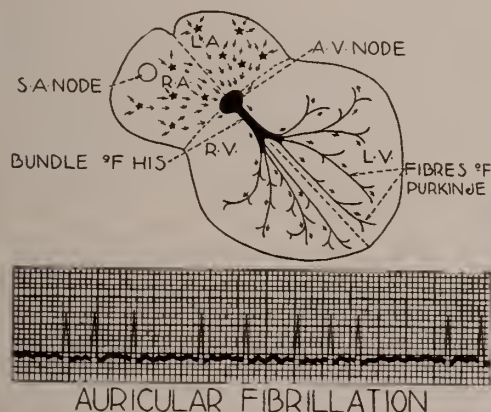


Fig. 2. Auricular Fibrillation.

advocate that there are numerous ectopic foci in the auricle which send out stimuli to contraction (Fig. 2). These interfere with one



even become permanent. Frequently the patient complains of dyspnea, cough, tightness in his chest and sometimes collapse. Abdominal symptoms may be present with pain in the abdomen, nausea, vomiting and loss of appetite, particularly when there is acute cardiac failure and sudden engorgement of the liver. As a rule paroxysmal auricular fibrillation lasts for a short period of time and recurs at frequent intervals until finally the mechanism persists and becomes a chronic one. After a number of days or weeks of persistent auricular fibrillation the patient usually adjusts to the abnormality and is less mindful of his symptoms.

The onset of chronic auricular fibrillation is usually preceded, as has been described, by these paroxysmal attacks. However, many individuals with established auricular fibrillation present themselves for examination who have no recollection of its onset, and it would appear that it has been a rather quiet and gradual affair. This is probably not true, and it is more likely that the patient has forgotten the storminess of the onset by the symptoms which have followed. In these chronic cases, the symptoms referable to the irregularity alone are few. Palpitation may be noted and occasionally the individual has recognized that his heart beats irregularly. More often the symptoms present are those of associated cardiac failure, such as dyspnea, weakness, cough and edema of the extremities.

On physical examination, when the rhythm is studied at the apex with a stethoscope on the chest, the gross and absolute irregularity of rhythm will be readily noted. Seldom are two beats of the same intensity. When the blood-pressure is taken, one detects a difference of intensity in the beats. One beat comes through loudly, the next one is weak and each one differs from its fellow. If one counts the rate at the apex and the pulse rate at the wrist a deficit of from 10 to 40 beats may be found. These findings are the characteristic picture of auricular fibrillation. When the ventricular rate varies between 60 and 80, the gross irregularity is not as obvious, and, if the rate be as slow as 40 (which is not uncommon) the irregularity passes almost unnoticed. In teaching students how to detect this irregularity, a simple method has been developed of increasing their perception. They are instructed to place the

stethoscope over the chest and mark each cardiac contraction with a movement of the index finger placed within their range of vision. We have found that their visual perception of the irregularity is much greater than their ability to hear it. Increasing the cardiac rate by exercise of the patient makes the irregularity more pronounced. By simply having the bedridden patient sit up and lie down two or three times, one can increase the rate materially, and render the arrhythmia more obvious.

In the majority of cases there is no necessity of differentiating auricular fibrillation from other types of arrhythmia. Patients with a very slow rate may simulate a heart-block with a slow rate. Rapid auricular flutter must also be differentiated from auricular fibrillation. Patients who have a marked sinus arrhythmia with frequent extrasystoles may simulate auricular fibrillation. Frequent dropped beats in partial heart-block may offer the same difficulty. Differential diagnosis is best made by means of an electrocardiogram.

In general the prognosis of auricular fibrillation is serious. It is serious because auricular fibrillation usually develops in the end stage of any type of cardiac disease. The patient with valvular disease who has developed auricular fibrillation is usually near the end of his pathway. The same applies to hypertensive vascular disease. In patients with thyrotoxicosis who have developed auricular fibrillation an exception to this general rule is found. The majority of these patients, when relieved of their goiter by surgery, usually revert to a regular sinus mechanism without further difficulty. Occasionally, cases have been reported in which patients had developed auricular fibrillation without any other obvious findings of structural heart disease. Paroxysmal auricular fibrillation implies that the patient will develop the chronic form. The prognosis, therefore, depends upon the extent of the underlying cardiac pathology with the superimposed auricular fibrillation.

In considering the treatment of auricular fibrillation, I would like to point out that the discussion is directed primarily to *the treatment of this arrhythmia rather than the associated congestive heart failure and the underlying cardiac pathology.*

For the past three-quarters of a century, dig-

italis has been the accepted method of treatment of auricular fibrillation. It would be superfluous to review the value of this drug or its effect upon the cardiac mechanism. Digitalis therapy, however, is not a curative procedure in the treatment of auricular fibrillation. It modifies the abnormal cardiac physiology thus rendering it more efficient.

In 1914, Wenkebach discovered that quinine would cure auricular fibrillation. Quinidine, the chemical isomer of quinine, was found to have a similar effect in 1917, by von Frey. Following these reports numerous records appeared in the literature concerning the use of quinidine sulphate in auricular fibrillation. Cases were soon reported in which embolic phenomena had occurred and considerable fear developed concerning the use of quinidine. Dr. Paul White of Boston reviewed the frequency of embolic phenomena in patients who were converted by the use of quinidine and those who had never received quinidine. It was found that the incidence of emboli was practically the same in both series. The common practice in the past was to hospitalize patients who were to receive quinidine, fully compensate them with the use of digitalis and, after the test dose of two grains, give them an increasing dosage, sometimes up to ninety grains per day.

I would like to relate to you my studies on the effect of quinidine sulphate in auricular fibrillation in an experience of slightly more than one hundred cases. No selection of patients has been made regarding the underlying pathology, age, sex, decompensation or previous digitalization. The drug has been prescribed for ambulatory patients as well as hospital patients, and private patients as well as those in dispensary or charity wards.

The method of dosage is quite simple. The patient is given quinidine sulphate in a tablet containing three grains. One tablet is taken every six hours during the twenty-four hour period. To follow accurately this regime the patient should awaken at night to take one dose. Forty per cent. of these patients have been converted to a regular sinus mechanism. Heretofore it was the consensus of opinion that, if a patient did not convert to a regular mechanism after taking quinidine for a period of a few days, a further trial would result in failure.

This has not been our experience. Some cases have taken the drug as long as sixteen weeks before conversion occurred.

In cases of decompensation, digitalis was used in conjunction with quinidine. There has been considerable discussion as to the advisability of this procedure but practice has shown it to be desirable. Other necessities of cardiac treatment such as the use of opiates, diuretics, low ionic diets, and salyrgan were employed when necessary.

In the group of cases in which conversion to a normal mechanism has occurred, a maintenance dose of quinidine sulphate must be kept in force. Six to nine grains per day is usually sufficient. This dosage may be taken indefinitely without evidence of cinchonism.

In the cases in which auricular fibrillation persisted in spite of consistent efforts to convert it with quinidine, the patients were kept on small doses of digitalis of one-half to one grain per day and six to nine grains of quinidine sulphate per day to maintain their compensation. Several studies have been made in this group of patients of combining other drugs with the quinidine to effect a conversion but to date none have been found to be successful. In one group of patients intravenous injections of the drug were used, in doses varying from three to twelve grains, but these attempts were unsuccessful in effecting a conversion. This method cannot be recommended.

In Fig. 3 the effect of quinidine sulphate upon the fibrillating auricles is shown. These curves are made with the electrocardiograph from direct leads from the precordia. In the first lead the auricular activity is shown by numerous small unequal irregular waves with a frequency of about 500 per minute. The subsequent leads were taken during the succeeding days. They show the change in auricular activity. It appears that the number of irritable foci in the auricles are diminished by the sedative action of the quinidine, inasmuch as the contour of auricular waves become alike and their frequency is diminished. This is accomplished slowly from day to day till eventually the curve assumes an appearance similar to auricular flutter in which only a single ectopic auricular focus is active. It would then appear that the sino-auricular node re-assumes its normal role of pace-maker



and normal sinus rhythm occurs as the last irritable focus in the auricles is abolished. In those cases in which conversion does not occur the auricular activity is either not appreciably affected or it is slowed to a rate near 200 per minute with one or more auricular foci predom-

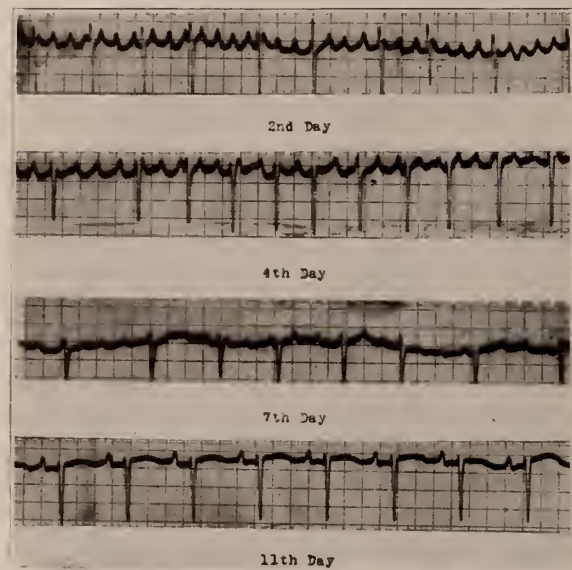


Fig. 3. Quinidine Grs. 3, 8 A. M., 2 P. M., 8 P. M., 2 A. M. daily, showing the effect of the drug upon the auricular activity. Chest leads were made on each successive day.

inating, and the sino-auricular node fails to re-assume its normal role of pace-maker.

In summary, it may be said that auricular fibrillation is a state of abnormal cardiac physiology which decreases cardiac efficiency. Quinidine sulphate administered in doses of three grains, four times in twenty-four hours will, in forty per cent. of the cases, convert the auricular fibrillation to a normal sinus mechanism.

This method of continued low dosage is free of danger of quinidine intoxication and is applicable to all patients. Individuals with auricular fibrillation, who fail to convert to a regular mechanism, are best treated with a combination of digitalis and quinidine. The effect of quinidine is a sedative one.

#### Note:

The studies of the effect of quinidine sulphate upon auricular fibrillation in ambulatory patients were made in collaboration with Dr. Laurence E. Hines, Chicago. The formal report covering that series is soon to be printed in the *Journal of Laboratory and Clinical Medicine*.

## PRESENT-DAY USES OF QUINIDINE.\*

LEWIS W. WOODRUFF, M. D.

JOLIET, ILLINOIS.

Although many articles have been written on the uses of quinidine in cardiac therapy, there still exists much confusion and controversy as to its proper applications and dangers. First demonstrated as an effective agent in auricular fibrillation by Frey in 1918 after Wenckebach had previously used quinine in this irregularity, quinidine has become one of our greatest aids in the treatment of the arrhythmias.

Many of us fail to use this agent in cases in which it would be of great benefit because we are afraid of the occurrence of embolism or of toxic effects. Frequently we fail to obtain the desired result because of incorrect dosage or improper selection of cases.

The consensus of opinion among cardiologists seems to be that quinidine should be tried in all patients with auricular fibrillation of recent onset when there is no evidence of congestive failure, severe myocardial damage or high grade mitral stenosis. The majority of these can be restored to normal rhythm by the administration of sufficiently large doses over a short period of time, usually in 12 to 72 hours. Wolff and White<sup>1</sup> report 81.8 per cent. of those who had been fibrillating for less than one month restored. Although a few will soon revert to fibrillation, many maintain sinus rhythm for months or years, and thus may be spared a long period of invalidism with congestive failure.

Other patients with fibrillation of recent origin, who have been decompensated, may be benefited by a trial of quinidine after all signs of myocardial failure have cleared up with rest and digitalis. Although the likelihood of success is not as good in this group, a fair number may be restored to normal rhythm. It may also be tried in patients with long-standing fibrillation without congestive failure and without evidence of thyrotoxicosis, who complain of troublesome palpitation and dyspnea not relieved by digitalis.

In patients with auricular fibrillation due to thyrotoxicosis, who after operation do not have a return to sinus rhythm in 2 or 3 days, the administration of adequate doses of quinidine will restore a large majority to normal rhythm.

\*Read before Section on Medicine of Illinois State Medical Society, Peoria, May 17, 1933, in Symposium on Heart Disease.



Hurxthal<sup>2</sup> reports this treatment permanently successful in 88 per cent. of a series of 53 selected cases.

In the not uncommon condition of paroxysmal auricular fibrillation quinidine is also successful in most instances in stopping the individual attacks and will usually prevent further paroxysms if administered in daily doses of from 3 to 5 grains. Parkinson and Campbell<sup>3</sup> report their treatment with this drug highly successful in the large majority of these patients. They found digitalis therapy helpful in a few cases in which quinidine failed. A small number which includes cases of high grade mitral stenosis will do better if maintained in permanent fibrillation because of frequent and troublesome recurrences of paroxysms which quinidine fails to control. These authors found that in 15 per cent. of their series the etiology was due to thyrotoxicosis. Though the administration of the drug may be successful in this group, obviously treatment should be directed toward the overactive thyroid.

Another arrhythmia in which quinidine is very useful, in fact absolutely indicated, is paroxysmal ventricular tachycardia. Occurring most often as a complication of coronary artery disease, but also in other types of cardiac lesions, this disorder can be diagnosed with certainty only by means of an electrocardiogram. Since many of these patients are in a most serious condition while in a paroxysm and the prognosis is nearly always grave, quinidine should be started in large doses as soon as the diagnosis is clear.

Levine<sup>4</sup> and Kilgore<sup>5</sup> have recently suggested its prophylactic administration in small doses in all cases of coronary thrombosis to prevent the onset of ventricular tachycardia or fibrillation which, it is believed, often occurs as the terminal event in this condition. I have seen it used for 2 or 3 days preceding the intravenous injection of strophanthin to guard against the occurrence of ventricular fibrillation which is the usual cause of the sudden deaths due to this drug.

In paroxysmal tachycardia of auricular or nodal origin quinidine is not as useful as the usual means of vagal stimulation and is effective in only a very limited number of these patients. More often it is helpful in those who are troubled by frequent extrasystoles which it may pre-

vent by the administration of from 3 to 10 grains daily. In auricular flutter it is usually wiser to give digitalis first. If fibrillation then follows, quinidine is applicable as previously described.

The method of administering the drug in attempting to restore normal rhythm in a patient with auricular fibrillation or ventricular tachycardia has been outlined by various writers. That of White<sup>6</sup> is probably as effective and safe as any. He advises giving first a single test dose of 3 grains after which if there are no signs of toxic effect, large doses may be commenced.

He gives six grains every 2 hours for 5 doses during the day, and repeats on as many subsequent days as may seem worth while, usually 5 to 10, until sinus rhythm is resumed, symptoms of poisoning appear, or until auricular flutter supervenes and persists for 2 or 3 days. Another method is to give 6 grains every 4 hours day and night.

Though larger doses than these are sometimes necessary, they are sufficient for the average case. In whatever manner the procedure is carried out close supervision preferably in a hospital with frequent electrocardiographic observations is important. It can, however, be done in the home with comparative safety if one is certain of the type of rhythm.

Toxic symptoms, consisting of tinnitus, diarrhea, nausea, vomiting, urticaria, marked drop in blood pressure, or very rapid and regular heart action necessitate discontinuing the drug. Only a small number of patients are unable to take quinidine because of these effects, the most common of which in my experience has been diarrhea.

Spiro and Newman<sup>7</sup> recently demonstrated evidence of the myocardial poisoning caused by quinidine by means of electrocardiograms in which there was marked prolongation of the QRS complex. After the effect of the drug had worn off, the QRS returned to its original form. In addition they advise examining with the fluoroscope for vigorous heart action, which they believe makes unlikely the occurrence of emboli.

The action of quinidine is directly on the heart muscle, producing decreased irritability and a prolongation of the refractory period.

The observations of Lewis<sup>8</sup> and Wenckebach and Winterberg<sup>9</sup> have shown that most of the

cases of fibrillation pass first through a period of flutter before sinus rhythm is resumed. This conclusion seems logical, since with the decrease in the conductivity and irritability of the auricular muscle one would expect that the rate of propagation and the number of the fibrillary contractions would be decreased resulting in a slower, more regular contraction of the auricles. When the refractory period becomes sufficiently prolonged, the impulses from the sinus node are able to break the circularly moving wave and establish normal rhythm.

*Summary and Conclusion:* The indications for the use, methods of administering, signs of toxicity and mode of action of quinidine are briefly reviewed. It is probable that this drug has not gained the widespread recognition which it merits among the profession.

Case 1. Mrs. H. B., aged 41 years, was admitted to the Presbyterian Hospital on Nov. 21, 1929, complaining of attacks of rapid and irregular heart action and shortness of breath for 4 years. Ten years previously she had had rheumatic fever. Examination showed the heart markedly enlarged both to the right and left, a faint presystolic and a systolic murmur at the apex with a totally irregular rhythm, a rate of 120, and moist rales over the bases of both lower lobes. The electrocardiogram on Nov. 18 had shown a 2:1 auricular flutter with a regular ventricular response at a rate of 136. Because of this digitalis was given.

On Nov. 26 a second electrocardiogram showed auricular fibrillation with a ventricular rate of 96. Quinidine sulphate was given, a total of 5 grams in 4 days in gradually increasing amounts. After sinus rhythm was restored, the patient was discharged feeling much better.

She made numerous visits to the dispensary afterward because of frequent attacks of fibrillation always terminated by taking quinidine but often ending spontaneously. Finally under regular quinidine administration of 3 grains 3 times daily she was comfortable most of the time for 9 months. After her next visit in April, 1931, she became decompensated, having been fibrillating for some weeks. The irregularity persisted from this date, no attempt being made to interrupt it because of difficulty in clearing up the decompensation.

This illustrates a case of paroxysmal fibrillation with rather high grade mitral stenosis. Although she did well for a few months on quinidine, she might have profited in the long run if we had attempted to keep her in permanent fibrillation with digitalis.

Case 2. Mrs. M. C., aged 48 years, came to the dispensary on Sept. 17, 1929, complaining of palpitation, dyspnea, and cough for 5 days. A previous attack one month before and lasting 2 days had occurred. She had had rheumatic fever at 13 with recurrences at

30 and forty-six. Examination showed marked enlargement of the heart to the left, an absolute irregularity with a rate of 187, no edema, no enlargement of the liver, and no rales in the chest. An electrocardiogram confirmed the diagnosis of auricular fibrillation.

After she had taken 4 grains of quinidine, remaining quiet at home, regular rhythm suddenly returned. The next electrocardiogram showed sinus rhythm with many auricular and ventricular extrasystoles. On auscultation a presystolic murmur was heard at the apex, a blowing diastolic murmur along the left sternal border and at the apex, and a systolic murmur in the aortic area.

She was directed to continue with a small dose of quinidine daily, but failing to do this regularly, had occasional attacks of fibrillation some of which terminated spontaneously. She continued the somewhat laborious occupation of making curtains in spite of repeated warnings to rest. During a period of 6 months while taking quinidine fairly regularly she was comfortable and had only occasional short attacks.

In December, 1930, after she had been working very hard during the preceding month, she was admitted to the hospital with extreme fatigue and a rapid auricular fibrillation. Examination showed an enlarged tender liver and moist rales in both lower lungs. She improved somewhat under rest and digitalis.

Three days after admission she developed a sharp pain in the right chest localizing posteriorly under the scapula; with marked dyspnea. The following day there was dullness and diminution in the breath sounds below the right scapula. She had a moderate elevation of temperature for 5 days, followed by 2 days during which she was very comfortable, free from dyspnea and with a pulse rate ranging from 68 to 85, though still irregular. She died very suddenly 10 days after admission.

Autopsy revealed chronic indurative mitral, aortic and tricuspid endocarditis, hypertrophy and dilatation of the left ventricle and auricle; acute thrombo-ulcerative (verruccous) mitral and aortic endocarditis, multiple scars of the myocardium; hemorrhagic infarct of the lower lobe of the right lung; right hydrothorax; marked passive hyperemia of the liver; slight ascites. Histological examination disclosed Aschoff bodies in the myocardium.

This illustrates a case of paroxysmal auricular fibrillation due to chronic rheumatic heart disease. She would undoubtedly have done better under proper conditions of rest and medication taken regularly but a return of active infection of the endocardium and myocardium hastened the end.

Case 3. Mr. J. S., aged 55 years, came to the dispensary complaining of an irregular heart action and dyspnea for 5 years. Examination showed the heart slightly enlarged to the left, absolutely irregular with a rate of 100 and no murmurs. There was no edema, no enlargement of the liver, no rales in the lungs.



Twenty-two grains of quinidine sulphate were given in gradually increasing doses over a period of two weeks without affecting the cardiac rhythm.

In this type of patient, not decompensated and able to continue his occupation as a carpenter with very little discomfort, obviously, it is better to allow such a case to continue in permanent fibrillation rather than to load him up with a highly toxic drug from which there is small chance of benefit.

Case 4. Mr. C. H., a salesman, aged 46 years, first consulted Dr. Edwin R. Talbot of Joliet in June, 1930, complaining of a paroxysmal dyspnea, occasional attacks of rapid heart action, and slight pain in the right arm. Examination showed the thyroid gland slightly enlarged, the heart apparently of normal size without irregularity or murmurs, and the chest negative. The blood pressure was 118/84. The basal metabolic rate was -18. An x-ray of the chest showed a slightly enlarged heart of normal shape and position, deviation of the trachea to the left from the level of the fourth dorsal vertebra. An oblique view showed a density behind the upper part of the heart, but the aorta was not dilated. An electrocardiogram in November was normal except for slight right axis deviation.

He continued to carry on his occupation without interruption during the following 7 months, although he began to have more frequent and more prolonged attacks of tachycardia, at least one of which lasted an hour.

In July, 1931, while swimming he developed a very sudden paroxysm of rapid heart action, causing marked weakness and shortness of breath. I saw him about 12 hours after the onset in a state of collapse. He was lying in bed on one pillow breathing rather rapidly and with considerable difficulty. His face was slightly cyanotic and of a grayish cast. The radial pulse was imperceptible, the heart tones very distant with a rate of about two hundred. There were a few fine moist rales in the lung bases posteriorly. An electrocardiogram showed a tachycardia of left ventricular origin with a rate of 194.

Eighteen grains of quinidine sulphate in divided doses were given during the following 6 hours. He died rather abruptly 20 hours after the onset of the paroxysm.

This case illustrates an unusual occurrence of death during an attack of paroxysmal ventricular tachycardia in an individual without evidence of severe myocardial disease; as well as the fact that quinidine is not always successful in stopping this type of irregularity.

#### REFERENCES

1. Wolff and White: *Arch. Int. Med.*, V. 43: 652, 1929.
2. Hurxthal: *Am. J. Med. Sci.* 179: 4507, Apr. '30.
3. Parkinson and Campbell: *Quart. J. Med.* 24: 67, Oct. '30.
4. Levine: *J. A. M. A.*, 99: 1738, Nov. 19, '32.
5. Kilgore: *J. A. M. A.*, 100: 315, Feb. 4, '33.
6. White, *Heart Disease*, MacMillan, New York, 1932.

7. Spiro and Newman: *Cal. & West. Med.*, 32: 398, June '30.
8. Lewis: *Mechanism & Graphic Registration of the Heart Beat*, London: Shaw & Sons, 1925.
9. Wenckebach & Winterberg: *Die unregelmässige Herz-tätigkeit*, Leipzig: Engelmann, 1927.

#### DISCUSSION

Dr. James G. Carr, Chicago: I had expected to volunteer some discussion on this subject because I have been particularly interested in quinidine. While I appreciate very much the painstaking work Dr. Maher has done in this connection, I am compelled, because of the experience we have had with the drug, to issue a note of warning regarding its presumed harmlessness. Dr. Maher presented the results on 100 cases. In 1923, Dr. Spoeneman and I presented a study of sixty-one cases from the Cook County Hospital. Since that time I have kept notes on thirty-five cases. Of these ninety-six patients, six developed emboli. They developed emboli which could be recognized clinically. Two men died of gangrene following embolism of an artery in the leg. There were, in addition to the six cases just cited, five cases of sudden death during the course of quinidin therapy. Two of these died within a few days of the restoration of the normal mechanism. I mention these because I am satisfied that some, if not all, of these fatalities were due to the effect of the quinidin.

From Dr. Maher's remarks about the use of small doses of quinidin I gathered that he believes the incidence of embolism in the course of quinidin therapy may be greatly lessened if small doses of quinidin are employed. I believe this view is misleading. Within fairly wide limits, it is not the amount of quinidin which is taken, but the response of the individual to the drug. We found wide variations in the amount of quinidin which would restore normal rhythm or produce toxic effects. One of our patients died a few hours after six grains of quinidin had been taken in two doses. At the Cook County Hospital we usually obtained but one electrocardiogram a day upon the patients to whom quinidin was given, yet our observations led us to the same conclusion just expressed by Dr. Maher, that most of the patients proceeded from fibrillation to normal rhythm through an intermediate process of flutter. Flutter differs from fibrillation functionally in that the auricle in fibrillation is entirely ineffective. Although in practically continuous movement it is functionally useless, except as a reservoir; it has no share in promoting the circulation of the blood. If fibrillation is succeeded by auricular flutter the auricle again contracts as a unit even though the normal pacemaker has not regained control of auricular activity. Regular auricular activity is now recorded in the evenly spaced and equally prominent f waves of the electrocardiogram.

It is known that clots are more frequently found in the fibrillating auricle than in the auricle with normal mechanism. The reason for auricular clots is clear: the auricle has ceased to function and there is developed an opportunity for formation of clots through stagnation, especially in the auricular appendages. While fibrillation continues, pieces of these clots may be car-



ried into the circulation producing embolism in one or another organ. If the auricle again contracts as a unit as happens with the restoration of normal mechanism or with the onset of flutter, there is a likelihood that the functionally intact auricle may now dislodge portions of the intra-auricular clots which will be distributed as emboli. Serious results may ensue, even sudden death. I emphasize this because I feel it is important that any one who uses quinidin should realize that he is dealing with a drug of value which is not without the power to do harm. Quinidin, though a useful drug, is not free from possible dangerous effects.

A number of our electrocardiograms showed prolongation of the A-V conduction time after the restoration of the normal mechanism. Quinidin depresses cardiac irritability, prolongs conduction and lessens contractility. Probably these very qualities are those which are responsible for its usefulness in controlling cardiac irregularities yet these depressant manifestations may not be disregarded in the clinical use of the drug.

I have spoken dogmatically. Dr. Maher has done excellent work and has presented his conclusions clearly and effectively. Nevertheless, it is my conviction that it is unwise to give quinidin to a patient with an auricular fibrillation which has been present for some time. The "Old fibrillator," the patient who has had auricular fibrillation for months or years is exposed to a real hazard when an attempt is made to restore the normal mechanism. Quinidin has a definite place in the therapy of cardiac disease. It is valuable in paroxysmal tachycardia with fibrillation or regular rhythm. It is probably valuable, as Dr. Levine believes, and as has recently been recommended from some of the German clinics, for prophylactic use against ventricular tachycardia following coronary occlusion. It is often useful in the control of irregularities of the extra-systolic type. For my part I am loath to give quinidin to a patient with auricular fibrillation, known to have existed for three months or more. Within this length of time there has been opportunity for the formation of clots in the auricle and I believe that the attempt to restore normal mechanism under such conditions is unwise and fraught with danger. I freely admit that Dr. Maher's results have been very good but you or I may not have such good results with another series of cases.

I recall one unfortunate result of the successful use of quinidin. Auricular fibrillation persisted in a patient who had recovered from a thyroidectomy. Several days after operation, while the patient was convalescing satisfactorily, she was given quinidin in the hope of restoring normal mechanism. In this we were successful; regular rhythm appeared and continued for two days, when suddenly the patient died. If we persist in giving quinidin to individuals with auricular fibrillation of long standing, I believe we must expect to be called upon to explain, from time to time, such unfortunate accidents as the result of the therapy.

Dr. Warren Pearce, Quincy: So many statements

have been made regarding the dosage of quinidine that it is not surprising that there has been some confusion. Anderson, reporting on the use of the drug after thyroidectomy, recommended a dose of 5 grains every four hours night and day for the first twenty-four hours; the same amount every three hours night and day for the next twenty-four hours and the same dose at more frequent intervals for the next twenty-four hours, stopping the drug when the desired effect was obtained. Other authors have recommended very small doses. I was much interested in hearing the expressions of Dr. Maher and Dr. Carr relative to doses used and also the great difference in their opinions concerning the dangers of the drug.

Acute infectious myocarditis is a timely subject and I am sure that if all cases of acute infections would be observed with great care, many of them would disclose symptoms indicative of myocardial involvement. Often these symptoms are mild and are overlooked. Faulkner, in a series of cases of diphtheria made daily electrocardiograms and found that in those cases developing evidence of myocarditis the clinical symptoms and abnormal electrocardiographic findings, in practically all cases, occurred simultaneously. In very few of his cases were any clinical evidences of myocarditis present without definite electrographic findings being also present.

The remarks on the use of digitalis in the treatment of heart disease not only emphasizes the place of first importance occupied by that drug in our armamentarium for attacking heart disease, but also brings to mind how truly great was Withering in his first description of the use and dangers of this drug.

It was gratifying to hear the conservative note sounded by Dr. Sutton relative to electrocardiography. Valuable as the electrocardiograph is, it must be borne in mind that it is only an adjunct in our study of heart disease and can, in no way, supplant physical findings and general symptomatology.

I would like to express my appreciation to Dr. Nadler, as Chairman, for presenting one of the most interesting symposiums that it has ever been my pleasure to hear in this section.

Dr. C. C. Maher, Chicago (in closing): I would like to take a moment to defend my observations. Dr. Carr and I have discussed this matter many times and I feel as emphatically on the subject as he does that it is not a dangerous drug. I should like to take exception to some of the things he has said. Concerning Lewis' work on the presence of thrombi in the auricle, the author says nothing about the length of time those thrombi have been present. Many cardiac patients do have thrombi in their auricles but they probably form a short time before death.

As to the toxicity of quinidine; in thirty-nine different instances I have administered quinidine sulphate *intravenously* up to 12 grains at one time. In other cases I have given 5 grains intravenously four times per day, without any serious results. The patients were up and walked around the ward. These intravenous studies show the mistaken concepts of its toxicity.

Just recently in the County Hospital we finished a series of case studies on normal hearts. We gave the drug by mouth in doses of 30 to 60 grains per 24 hours. Electrocardiograms were taken every day and never did we find prolongation of the P-R interval or change in the width of the QRS complex. There was obvious change in the T wave, however, which many drugs will produce. I am sure that in doses of 12 grains per 24 hours by mouth you will never find it has any toxic effect on the myocardium.

Of course, emboli can occur but they occur in any heart disease, but no more frequently in quinidine treated cases than otherwise as pointed out by Dr. Paul White.

I should like to emphasize that quinidine is getting the criticism that any new method receives. Many of you may remember when diphtheria antitoxin came out and the criticism that was leveled at that type of therapy. I feel very strongly that quinidine *in the dosage advocated* is perfectly safe.

Dr. Don C. Sutton, Chicago (in closing): I have a slight fear that Dr. Deneen may have changed some of the things I wanted to get over.

In regard to the case of angina with thyroid, that was a true case of angina. The thing I wanted to illustrate is that angina is a relative thing; it is relative to the amount of blood in the myocardium. Under extreme work and very rapid heart it may be otherwise so that we have a situation that is similar to actual occlusion of an artery.

I take it that when you spoke of not keeping patients in bed you were speaking of angina cases. I wanted to be sure that you did not mean cases of mild coronary thrombosis. I feel this type of patient should be kept in bed for a number of weeks.

## NON-SURGICAL CHRONIC ABDOMINAL PAIN\*

DON DEAL, M. D.  
SPRINGFIELD

I am presenting the subject of "Non-Surgical Chronic Abdominal Pain" primarily for the purpose of emphasizing the importance of more pains-taking study of patients presenting chronic abdominal symptoms which might lead to the hasty and superficial diagnosis of such conditions as chronic appendix, cystic ovaries, gall bladder disease or adhesions. If we, as surgeons, would avoid surgical interference in what are purely medical conditions, I feel that we should never make a diagnosis of operable surgical pathology until we have thoroughly considered all other conditions which might produce similar symptoms. The diagnosis of chronic appendicitis, for example, should always be made with

definite reserve. Chronic tenderness and pain alone, at or near McBurney's point, or in the gall bladder area or in the iliac fossae cannot be regarded as diagnostic.

The treatment of chronic abdominal pain merits the most careful and discriminating examination. In one popular sanitarium, catering to those who go for rest for nervous instability, it was found that more than 25 per cent. of patients have abdominal scars due to surgery instituted for the relief of symptoms. In many of these cases it may be presumed that surgery was not indicated and in some surgical interference may have accentuated the neurasthenic condition. On the other hand, in dealing with these patients, we must be exceedingly cautious in concluding that the symptoms are of purely neurotic origin even if the patient's statement presents anatomical incongruity or if there is an incompatible shifting or migratory pain. Frequently an organic foundation is causing symptoms which we are inclined to regard as characteristic of hysteria or neurosis.

We must bear in mind that in pulmonary tuberculosis practically all patients have abdominal symptoms at one time or another. A recent survey in a tuberculosis sanatorium showed laparotomy scars in 28 per cent. of their patients. Pulmonary tuberculosis, particularly with diaphragmatic pleurisy, not infrequently gives symptoms closely simulating appendicitis.

A not uncommon medical condition which is often overlooked is the so-called orthopedic appendix. Here tenderness and pain are found in the abdominal wall and may be readily recognized by simple tests which eliminate a diagnosis of intra-abdominal pathology.

Without prolonged discussion of confusing possibilities, I would suggest that the heart may masquerade as an abdominal condition and that the cardiac syndrome must be fully considered. A proximal constipation may cause chronic pain about McBurney's point. Tabes and conditions of the genito-urinary tract must be ruled out. Colitis, spastic colon or sensitive colon very frequently give symptoms which may be attributed to a surgical condition.

It is my desire to offer some suggestions which may help to clear up diagnoses in a large group of patients suffering from abdominal discomfort and those ordinarily diagnosed as asthenic, viscerotropic or neurasthenic. The internist and the

\*Read before Section on Surgery, Illinois State Medical Society, Peoria, May 17, 1933.



surgeon must approach these cases for cooperative study and in an unprejudiced state of mind if we are to attain the best interpretation of these abdominal symptoms. This is especially true with patients who are presumed to have a high degree of nervous instability.

I do not take the position that there are no cases of chronic appendicitis. However, I am impressed that such cases are rare and that the diagnosis should be made with some doubt and reservations. Unfortunately, many patients regard tenderness about McBurney's point as indicative of appendicitis and are insistent that surgery be done. Subsequent history indicates that many such cases are not relieved by surgery while others report temporary improvement which may, in many instances, be attributed to the post-operative rest and diet. Please do not misunderstand my position. These patients are in no sense immune to chronic surgical conditions. Many old gall bladders are to be found; but our diagnosis of an operative condition can usually be quite definite and conclusive. Andreone states that but 5 per cent. of his patients with symptoms of chronic appendicitis proved to be those in whom the appendix was the only source of symptoms.

Obviously in my rather sweeping remarks regarding chronic appendicitis, I am not ignoring recurrent acute appendicitis which is a very definite condition and which I believe occurs quite frequently. We see many cases with a history of repeated attacks of appendicitis. I am not talking about recurrent attacks of appendicitis; but about the more or less chronic symptoms which are commonly interpreted as meaning chronic appendicitis—patients having a more or less prolonged abdominal tenderness with indigestion and attacks of pain that recur at intervals.

In case of doubt in these cases, we are not justified in exploratory operation as a routine measure since most of our mistakes are caused by medical conditions and not by surgical pathology which would be revealed by exploration. Barnett states that extensive exploration, with its increased mortality, so rarely reveals gastric or duodenal ulcer, gallstone or other unsuspected surgical lesion, that the extensive incision, with its definite risk of hernia, is not warranted as a routine procedure. Exploratory laparotomies are commonly undertaken for abdominal pain and

tenderness which may cause the patient to seek relief. By proper examination, however, it is often possible to recognize the parietal location of symptoms so that futile and even harmful operation may be avoided. The idea that exploratory operations are harmless is not based on fact. The unquestioned mortality of from 1 to 2 per cent. and more or less frequency of post-operative hernias must cause exploratory operations to become distinctly less popular. The common belief with laymen that all chronic abdominal pains are due to surgical conditions has encouraged exploration; but carefully collected data show that about 80 per cent. of explored patients remain unrelieved. The platitude that long incisions will heal as rapidly as short incisions is often heard; but is not true if we consider other tissues than the skin. Payr holds that further exploration is not indicated after an erroneous diagnosis of chronic appendicitis, and I feel definitely that further exploration, after an acute appendix is found and removed, adds an unjustifiable risk.

As compared with the typical muscle splitting incision, the long exploratory incision is decidedly more hazardous, causes a longer hospitalization and increased mortality, adds post-operative pain and post-operative hernia. In comparing 100 cases with muscle splitting incision as against 100 cases of long exploratory incision, it was found that the latter entailed two years of added hospitalization and six years of disability with higher mortality, greater post-operative discomfort and increased frequency of hernia.

Pseudo-appendicitis is far more frequently caused by endocrine unbalance than has been ordinarily believed. A well-known writer has recently stated that the gastro-enterologist has occasion to worry about patients that have not been relieved by the usual series of operations on appendix, gallbladder and stomach and for ptosis, ovarian trouble and adhesions. He asks how we are to guide these unfortunates back onto the road to health. He holds that there is little to be expected from diet in these cases and he even suggests the blocking of paths of pain by injecting the nerves. I am satisfied that he has in mind the class of cases I am talking about which are often relieved by proper diagnosis and treatment from an endocrine standpoint.

In the class of cases commonly diagnosed as chronic appendicitis, it is necessary to obtain an



accurate and exhaustive history, to make a thorough examination and, especially, to ascertain the general endocrine history. This should include knowledge as to whether the mother gained an excessive amount of weight (over 25 pounds) during the intra-uterine life of the patient; whether or not the patient walked and talked at the usual age; when menstruation began, its regularity and quantity and history of dyspmenorrhea. It should also include a comparison of the upper and lower measurements, the span as compared with the height and a general inspection of the figure. Inspection of the skin and nails may give suggestive information. In even this casual examination a clue to more specific diagnosis is frequently had, by the utilization of our more recent knowledge. I am satisfied that, in the past, the importance of endocrine unbalance has been frequently overlooked and this failure in interpretation has added largely to the prosperity of the various medical cults.

In reviewing the general medical and surgical literature one is impressed by the dearth of material on the relationship of the endocrine to abdominal symptoms. Engelbach's works, however, have added greatly to our knowledge. During the past three years, serious consideration has been given to the subject by numerous students. It appears that the unbalanced endocrine secretion causes the nervous system to become more sensitive, bringing in its train a multitude of abdominal symptoms. Allen, Doisy and Stockard have added greatly to our general knowledge of the subject and Sexton and Hutton have guided us in the therapeutic application of that knowledge.

The interesting types which chiefly concern us consist of two principal classes, the primary hypogonad or eunuchoid and the secondary gonad or pituitary groups. The primary hypogonad or eunuchoid group is characterized by tall, slender stature, nervous instability, general constitutional weakness, frequent gastrointestinal symptoms of varying degrees and, very frequently, the occurrence of abdominal pain. It is when symptoms referable to the gastrointestinal tract with associated abdominal pain occur that diagnosis becomes clouded. The gastro-intestinal symptoms in this class of patients include distension after eating, epigastric fulness, lower quadrant distress often to the ex-

tent of sharp pain, often at the time of menstruation; but not infrequently during the intermenstrual period. Pain in these cases is attributed to follicle tension in unduly sensitive persons, coincident with ovulation.

In women the menstrual history will usually reveal one or several symptoms of disturbed ovarian function, such as delayed onset of menstruation, scanty flow, prolonged interval or painful menses. Diagnostic studies in these cases will give little aid. Spasticity of the colon is a common finding as is also general visceroptosis. Undoubtedly gastro-intestinal function is altered in the ptosis type; but ptosis itself cannot be held accountable for the symptomatology. There is a general upset of the entire endocrine system with derangement of the sympathetic and parasympathetic nervous systems and only the correction of the primary disorder will bring relief. It is rather generally believed that the pain accompanying menstruation is due to an improper balance between the gonadactivating hormone of the anterior pituitary and the ovarian hormone (Theelin).

The pituitary or secondary hypogonad patients, while possessing an entirely different physical make-up, often present a bizarre gastrointestinal syndrome very similar to that of primary hypogonadism. Incidentally, at this point I want to remind you of the well established fact that failure of the anterior pituitary results in gonadal failure. When this failure is present before adolescence, sexual infantilism occurs. If it occurs after adolescence and when sexual development has been completed, there is disturbed sexual function. Further you will recall that hypopituitarism may be of the obese or of the non-obese type.

Primary pituitary insufficiency is most frequently complicated by secondary thyroid deficiency. When this occurs, obesity is present. In this type, the patient is short or about normal stature, depending upon the activity of the growth hormone of the anterior pituitary. These patients are of the sthenic type, and, like the eunuchoid group, often have well-defined abdominal pain most often referred to the gall-bladder and appendix regions. In women, the menstrual history is like that in the eunuchoid group.

Operative procedure in either group, in the absence of definite organic pathology, gives no

relief; but rather tends to aggravate the symptoms. It must be borne in mind, however, that true organic disease can and does occur in the eunuchoid and pituitary type of patients and the diagnosis of an endocrine disorder should only be settled upon after a careful diagnostic survey.

Frequently this class of patients will have pain about McBurney's point, accompanied by nausea and vomiting and, at times, an increase in the white blood count. To illustrate the eunuchoid class of patients, I desire to give the following abbreviated history:

Mrs. M., married, aged 29 years; never pregnant. No history of acute illness; but has never been robust or strong. Chief complaint was recurrent attacks of abdominal pain at or near McBurney's point, belching, constipation, nervousness, loss of appetite, loss of weight amounting to 30 pounds since she was 18 years of age. Frigid type. She began menstruating at 15 and has been somewhat irregular, generally of the five and six week type. Menses scanty, running two to four days. Examination: Weight 134 pounds; height 67 inches; span 69½ inches; upper measurement 32 inches; lower 35 inches; blood pressure 100/60. There was some resistance and tenderness over McBurney's point. Vaginal examination was negative except adnexa sensitive. White blood count 9,600; hemoglobin 85 per cent; red count 3,800,000. Urine negative. Diagnosis: Eunuchoidism. A diagnosis of chronic appendicitis had been made before the patient came to me for observation.

Border line cases may be more difficult; but this clinical picture was frankly that of appendicitis as generally accepted without considering endocrine possibilities.

Comments: The history of frigidity and sterility in this case is at once suggestive and this is accentuated by the history of disturbed menstrual function. While the pain over McBurney's point and other abdominal symptoms have their significance, the patient as an individual must be studied. Her tall stature and eunuchoid measurements, increased lower measurements (top of symphysis to soles) over upper (top of symphysis to vertex) and increased span over height, strengthen the suspicion of functional disorder. Delay in closure of the epiphyses of the long bones in ovarian failure, together with over-production of the growth hormone of the anterior pituitary account for the excessive long bone growth. In this type of cases general visceroptosis is found. In the past, ptosis was considered primary; but, in the light of our present knowledge, it is regarded as secondary. The oestrin quantitative determination in this case

would be of great diagnostic value and it is hoped that the day is not far off when this diagnostic aid will be available to all physicians.

It is a generally accepted fact that ovulation occurs from the twelfth to the sixteenth day following the beginning of the last menstruation. Sclerosis of the ovarian tunic may in part be responsible for the persistent pains in this class. At any rate it may be responsible for some of the mid-menstrual pain which is ordinarily not associated in the mind of the clinician with dysmenorrhea pain.

This patient was put on ovarian follicular hormone (Theelin) and has been practically free from all symptoms for more than a year.

The second general class to be considered is the pituitaro-thyroid type. These patients usually have a distribution of fat over the girdle. A typical short case history is the following:

Mrs. C., aged 27 years. Has large busts, deposits of trochanteric fat and rolls of fat in the abdominal wall. Menstruation began at 11. Has always been irregular, at times missing two or three months. She is nervous and has difficulty in sleeping. Three years ago she developed a rather acute attack of pain resembling gall stone colic. This was accompanied by chill followed by some elevation of temperature and slight jaundice with vomiting. Since that time, she has had three similar attacks. The past history was otherwise negative so far as acute conditions were concerned. Weight 192 pounds; height 67½ inches; span 65 inches; upper measurements 34½ inches; lower 33 inches; chest circumference 46 inches; waist, 39 inches. The features are small; a somewhat full thyroid; blood pressure 150/100, pulse normal. Gall bladder study negative.

Discussion: Although the gall bladder study was negative, the diagnosis of chronic cholecystitis can hardly be ignored in the history. It is of interest to note that gall bladder disease is very likely to occur in patients of the pituitary type. That this patient is of the pituitary type is shown by the measurements. The upper measurement is greater than the lower and the total height is greater than the span. There is distribution of fat over the girdle. Of further interest is the early onset of menstruation, at age 11, with subsequent irregularity due to secondary hypogonadism. Such a mixed menstrual history may be expected in multiglandular disturbance. It has been stated that these patients are of the sthenic type and the blood pressure of 150/100 in this case is in keeping with the general make-up. B—M. Test—18.

Thyroid deficiency was secondary to the pri-



mary pituitary insufficiency. This patient was treated with the pituitary sex hormone by hypodermic and with desiccated thyroid orally and placed on an anti-obesity diet. Within three weeks she had begun to lose weight and her nervous stability was strengthened and, very soon, the menstrual cycle was restored. She has had no recurrence of abdominal pain.

Conclusions: 1. Exploratory incisions clear up but 5 per cent. of surgical diagnoses. 2. Exploratory incisions add to risk and disability. 3. At sight a suspicion of endocrinopathy may be suspected. 4. History and examination establish diagnosis. 5. All suspicious cases should be thoroughly studied to rule out surgical pathology. 6. Proper endocrine therapy will relieve a large per cent. of properly diagnosed cases. 7. Unnecessary surgery is prevented in many cases.

#### DISCUSSION

Dr. James H. Hutton, Chicago: I would like to discuss Dr. Deal's paper, taking the last of it first. He says that when they have a tall thin patient they make an endocrine study first. In my opinion one should first rule out the non-endocrine diseases.

Regarding the eunuchoid case: The increased length of the lower extremities over the upper can occur only in case the ovarian insufficiency begins before puberty. If it begins after the epiphyseal lines close, this disproportion in growth cannot occur. The gonads have an inhibiting influence over the growth of long bones. A lack of these hormones causes the epiphyses to remain open longer than normal. In such cases the long bones grow rapidly and to a later age than normal so that the lower measurements exceed the upper.

Dr. Deal mentioned the basal metabolic rate as being low in the combined disorders of pituitary and thyroid. I should like to make this observation. It was made to me some years ago by the late Dr. Engelbach and it has been confirmed in my own experience. In patients having a combination of pituitary and thyroid deficiency the basal metabolic rate gives us very little information as to the status of thyroid function. The explanation for this has never been made. Many patients presenting evidence of a combination of these two disorders in whom the basal metabolic rate may be normal or even slightly elevated can tolerate liberal doses of thyroid. Such cases many times exhibit a tachycardia which is reduced to normal following the administration of thyroid. The only way we can determine the dosage of thyroid in these cases is by trial and error, beginning with small doses and increasing to tolerance. In my opinion a patient who can take three grains of thyroid a day is severely in need of thyroid medication. The idea of beginning with five grains is quite out of order. I think we should begin with one-quarter grain and increase one-quarter every fifth day until the signs show that the patient is

getting too much, at which time we can reduce the dose by one-fifth and continue at that level.

The patient with upper measurements longer than the lower is apt to be a victim of primary pituitary deficiency. Because of the lack of growth hormone the long bones do not grow with the usual rapidity or to the usual length. There is relatively little difference in the flat bones and consequently they continue at approximately their normal rate and we have an upper measurement that exceeds the lower. It does not follow that we have a deficiency of sex hormone at the same time. You are all familiar with the man who is below the average height but whose sex functions is above normal. In other cases there may be a lack one or both sex hormones without any disturbance of the growth hormone.

There is no doubt that the pituitary exhibits all of the actions and influences attributed to it by experimental workers, but there is serious doubt that each of these actions is due to a separate hormone. We are relatively certain that the anterior lobe produces both a growth and a sex hormone and of the latter there may be two. Of the various other hormones we are much less certain.

Dr. Deal mentioned the importance of the menstrual history. I would like to emphasize what he said about that. Engelbach said some years ago that patients who had pituitary disturbances were apt to experience one menstrual period that was quite profuse and then weeks and months of amenorrhea. The history should show the onset of the periods, the regularity and the degree, time, location and character of the pain. If a patient comes to you and says she has headache beginning seven to ten days before the period and lasting up to or through it, you should think of a pituitary disturbance. That is the characteristic pituitary headache. I cannot make a diagnosis of pituitary headache but these facts are significant. There is another fact that points to ovarian insufficiency and that is a painful period alternating with one relatively painless.

Dr. Deal outlined the condition of the skin and its appendages, the hair and the teeth. These can be taken in at a glance. Obesity if present indicates pituitary disturbance when the fat is distributed about the shoulders and pelvic girdles. So it is not difficult to acquire some evidence as to whether the patient has some endocrine disturbance. The age of walking, talking and teething should be noted. Another thing of significance is whether the mother was able to nurse the baby. Women having defective pituitaries are not able to nurse their babies for any length of time, two or three months at the most.

Cases of ovarian deficiency as differentiated from pituitary deficiency are very difficult indeed. It is difficult to tell whether it is a primary ovarian deficiency or one secondary to pituitary involvement. Women who have ovarian deficiency beginning early in life are tall and thin. The skin is not clear. There are a great many cases of acne that are on the basis of ovarian insufficiencies. The patient with ovarian deficiency has more gastro-intestinal upsets than the pitu-



itary deficient patient. These attacks may, as Dr. Deal said, simulate appendicitis or gallbladder disease. Pituitary deficiency involving particularly the posterior lobe gives rise to a great deal of abdominal pain. We are not nearly so certain as we were ten years ago and as we would like to be that disorders of the posterior lobe are more frequent than those of the anterior lobe. Undoubtedly the pituitary has a lot to do with the metabolism of fat. Many times patients become fat and the fat is laid on in the pituitary type, but we are not at all certain that the posterior lobe is responsible. Experimental workers seem quite sure that the anterior lobe has as much or more to do with fat metabolism than the posterior lobe.

Along the line of experimental observations, a worker in the Argentine transplanted the anterior lobe under the skin of hypophysectomized dogs and they became quite severely diabetic. That has been confirmed in the United States by Dr. Barnes in Carlson's laboratory. He has a dog that has neither pancreas nor pituitary and is not diabetic. On the other hand, Cushing within the last fifteen months has reported a large number of cases of what he calls pituitary basophilism. Several of these patients had diabetes. One patient was very low and death was feared. When they administered considerable doses of x-ray to the pituitary the diabetes was improved. You will recall that Joslin has noted that diabetic children are often quite tall and raised the question whether the growth hormone of the anterior lobe has not been more active than it should be, with the result that the youngsters developed diabetes. We feel sure that the pituitary in some cases of diabetes is quite as important as the pancreas.

I am particularly glad to hear Dr. Deal's paper and am particularly glad to hear such a paper in the Section on Surgery. I am sure it indicates progress.

## PRIVATE SANATORIA AND REST HOMES FOR THE CARE OF MENTAL PATIENTS IN ILLINOIS

JOHN M. GRIMES, Ph. B., M. D.

Director, Sanatoria Study, Illinois Society for Mental Hygiene  
CHICAGO

In the spring of 1930 a personal investigation was made of all private institutions for the care of mental patients in Illinois. The results of this study were published in the *ILLINOIS MEDICAL JOURNAL*, issue of May, 1931. During the spring of 1933 a second and similar investigation was made, and it is now possible, therefore, to make a comparative report of conditions disclosed by the two periods of study.

The 1930 investigation included 11 sanatoria and 15 rest homes; that of 1933 included 11 sanatoria and 20 rest homes. Ten of the eleven sanatoria in the two investigations are identical; among the rest homes, however, only eight of

the fifteen active in 1930 were found to exist in 1933, and during the three-year interim twelve others came into existence. The comparative instability of the rest homes is obvious.

Unfortunately, the distinctions between sanatoria and rest homes are not generally understood. These distinctions were drawn in the report of the 1930 investigation, but for the sake of clarity they should be noted briefly again. 1. Sanatoria offer housing facilities for (a) social intercourse, (b) recreational activities, and (c) treatment; rest homes are primarily residences. 2. Sanatoria have equipment for (a) medical diagnosis, (b) protection against accident, (c) emergency relief measures, and (d) other therapeutic procedures; rest homes are furnished for comfortable living. 3. Sanatoria are operated by medically trained personnel—physicians, nurses and technicians fitted by study and experience to prescribe or apply diagnostic and therapeutic measures; rest homes are run by personnel presumably prepared to give custodial care. 4. Sanatoria make the details of their work matters of record, subject to investigation; rest homes are relatively free from this necessity. Much confusion may be cleared away and misunderstanding avoided by keeping these distinctions in mind.

The physical plants and the equipment of the sanatoria today are so nearly identical with those of three years ago that comparison would serve no good purpose; descriptive detail may be found in the previous report. The same statement is true regarding the similarity of the plants and furnishings of rest homes. The economic depression has made improvements in either class of institutions quite exceptional. The only sanatorium in which major improvements have been carried out since the 1930 investigation was taken over and subsequently operated by its creditors. The closing of eight rest homes is quite significant. In such times of economic distress, the failure to make expensive improvements cannot be justly criticized; the mere ability to carry on is itself commendable.

The personnel in the sanatoria has undergone but little alteration. The medical direction has changed in one instance and been reduced in another. Scandal has so associated itself with one of the institutions listed as a sanatorium

in 1930 that its existence was ignored in the compiling of the 1933 list; one rest home so listed in 1930 has made such improvement in facilities and so complete a change in personnel that it is now listed as a sanatorium. While the closing of eight rest homes and the opening of twelve necessarily presupposes great changes have been reduced in number from 225 to 165, or 27 per cent., while the patients have decreased in number from 525 to 438, or 17 per cent. Special nurses are included in the data, thus emphasizing unduly the disparity between the two percentages. It will be noted further that, in the rest homes, the reduction of nurses

PRIVATE SANATORIA FOR MENTAL PATIENTS IN ILLINOIS

Name and Address	Capacity	Patients	Nurses	Minimum
				Rates
Bellevue Place Sanitarium, Batavia.....	36	30	13	30
Chicago Sanitarium, 2828 Prairie Ave., Chicago.....	105	42	14	25
Kenilworth Sanitarium, Kenilworth.....	30	15	19	65
Mercyville Sanitarium, Aurora.....	175	150	25	10
Michell Farm, Peoria.....	25	20	6	46
Norhury Sanatorium, 1631 Mound Avenue, Jacksonville.....	100	50	46	30
Parkway Sanitarium, 2622 Prairie Ave., Chicago.....	50	24	10	25
Peoria Sanitarium, 106 N. Glen Oak Ave., Peoria.....	26	8	4	46
Pinel Sanitarium, 741 Diversey Pkwy., Chicago.....	65	18	7	25
Resthaven Sanitarium, 600 Villa Street, Elgin.....	70	62	11	20
Wilgus Sanitarium, N. Second St. Road, Rockford.....	35	19	10	35
Totals .....	717	438	165	357
Averages .....	65	40	15	32.50

PRIVATE REST HOMES FOR MENTAL PATIENTS IN ILLINOIS

Name and Address	Capacity	Patients	Nurses	Minimum
				Rates
Anderson Rest Home, 2107 Leland Ave., Chicago.....	5	2	1	15
Belvidere Resthaven, 1004 Grover Street, Belvidere.....	4	1	2	16
Crosby Rest Home, 212 Tryon Street, Woodstock.....	10	7	2	15
Ferrin Home, 3811 West 59th St., Chicago.....	8	6	1	7
Florence Rest Home, 546 E. Grant Highway, Marengo.....	10	6	1	12.50
Hart Sanatorium, 3400 Prairie Avenue, Chicago.....	20	6	3	20
Heffron Rest Home, 10347 Longwood Drive, Chicago.....	6	3	3	25
Helen Gould Rest Home, 10361 S. Wood Street, Chicago.....	6	2	2	12.50
Howe Home, 410 E. Jefferson Ave., Wheaton.....	15	8	2	15
Hueckstedt Home, 128 W. Hurlhut Street, Belvidere.....	8	5	1	10
Isaacson Rest Home, 5337 Cottage Grove Ave., Chicago.....	4	0	2	10
Lake Park Sanitarium, 3256 Lake Park Ave., Chicago.....	20	15	4	20
Lake View Rest Home, 10324 Longwood Drive, Chicago.....	12	7	5	15
Roherts Rest Home, 1414 Hinman Avenue, Evanston.....	20	0	1	12
Seven Oaks Home, Princeville.....	14	4	1	25
Shore View Manor, 2719 East 75th Street, Chicago.....	14	10	3	15
Therien Nursing Home, 6017 Kenwood Ave., Chicago.....	40	23	6	10
Vincennes Sanitarium, 4639 Drexel Blvd., Chicago.....	20	18	5	20
Virginia Hall, 2001 Orrington Ave., Evanston.....	20	15	4	20
Wall Farm, Batavia.....	7	4	1	12.50
Totals .....	263	142	51	307.50
Averages .....	13	7	2.5	15.37

COMPARISON OF DATA FOR 1930 AND 1933

	Total Capacities		Total Patients		Nurses and Attendants		Average Minimum Rates	
	1930	1933	1930	1933	1930	1933	1930	1933
Sanatoria .....	714	717	528	438	225	165	42.00	32.50
Rest Homes .....	219	263	1930	1933	1930	1933	1930	1933

in personnel, these changes have made no particular improvement in personnel except in the one instance above noted.

An accompanying table gives data regarding nursing service. It will be noted that, in the eleven sanatoria, the nursing and attendant staffs and attendants has amounted to but 2 per cent., while the decrease in patient population has amounted to 13 per cent. The value of these percentages is destroyed by the fact that the rest homes have increased in number; a correction for this factor changes the 2 per cent. to 30



per cent.; in many rest homes all employes are counted as nurses or attendants. In the evaluation of nursing service the medical service must also be considered; sanatoria have physicians in charge who, when there are but few patients, may give these patients a greatly increased amount of personal attention and so justify a corresponding reduction of nursing service; rest homes have physicians who call at intervals, but when patients are few these intervals may be lengthened, thus increasing the need of nursing or attendant service.

The table above referred to also gives data regarding minimum weekly rates. It will be noted that, while in 1930 the average minimum rate at a sanatorium was \$42.00, in 1933 it was \$32.50, a reduction of \$9.50 or approximately 23 per cent. Also, while in 1930 a rest home offered to receive patients for a minimum rate of \$24.00 per week, in 1933 this minimum offer is \$15.37, a reduction of \$8.63 or 36 per cent. Neither totals nor averages of actual receipts from patients can be given here, but it is certain that average fees have declined more than the minimum rates above quoted would indicate, and since the number of patients has also decreased the total receipts from these patients have doubtless fallen to an amazingly low figure.

The list of institutions given below is known to be complete only in regard to the sanatoria; there are probably a few small rest homes not included. The list is published, not as an indication of the worthiness of the institutions listed, but solely as a means of making the data available to physicians, social agencies, and any other persons in need of such information.

#### OPHTHALMOSCOPIC FINDINGS IN CONDITIONS OF HYPERTENSION\*

JAMES E. LEBENSOHN, M. D.

(From the Department of Ophthalmology, Northwestern University Medical School)

CHICAGO

Hypertension is reflected in the ophthalmoscope, in either subtle or obvious fashion, be the hypertension benign or malignant, associated with arteriosclerosis, or sequential to increased intracranial pressure. The earliest subjective symptoms are not infrequently visual. The patient comes complaining of black spots before the

eyes, of viewing objects through a haze, of sudden attacks of obscuration, or he may see in the peripheral field sparkling points that abruptly appear and disappear.

In the past decade it has been demonstrated that the various conditions in which hypertension occurs have typical and definite ophthalmoscopic characteristics. Friedenwald<sup>1</sup> distinguishes four primary groups: (a) benign hypertension, (b) arteriosclerosis without hypertension, (c) arteriosclerosis with hypertension, and (d) arteriolar sclerosis with malignant hypertension.

In *benign hypertension* the fundus picture may appear normal. However a direct determination of increased blood-pressure in the central retinal artery can be secured with Bailliant's dynamometer.<sup>2</sup> This is a simple spring-tension instrument with which measurable pressure can be exerted on the eyeball, while the observer concentrates on the arteries at the disc. **Pressure** is commenced gently, and as soon as an induced arterial pulse appears, the reading is noted. Knowing the initial intraocular tension, by means of the graphs of Bailliant,<sup>3, 4</sup> the data is readily translated into the equivalent of millimeters mercury. The diastolic pressure of the central retinal artery is normally 35 mm. Hg.,—somewhat less than half that of the brachial artery, and this ratio maintains itself in hypertensive states, unless the cerebral circulation is particularly affected. In *increased intracranial pressure*, the retinal diastolic reading is significantly and disproportionately high, a phenomenon that may long precede the disc changes. To what degree the retinal diastolic pressure may be thus elevated is strikingly illustrated in a case reported by Berens.<sup>5</sup> The patient was a woman, aged 36, with bilateral papilledema of three diopters of nine months duration. The brachial diastolic pressure was 70; the retinal diastolic pressure, instead of being just about half this figure, reached 60 mm. In general, a diastolic pressure in the central retinal artery greater by 10 mm. than half the brachial diastolic pressure is indicative of increased pressure in the cerebral arteries, the result of increased intracranial pressure. The retinal blood-pressure tends to be greater on the side of the tumor.<sup>6</sup>

In *arteriosclerosis without hypertension*, the main arterial branches are characteristically full and tortuous. Caliber variations, perivascular

\*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Peoria, May 17, 1933.



sheathing and arterio-venous constrictions are present, and occasionally also some hemorrhages and white spots. The light streak is brilliant because of the increased reflecting power of the hyalinized arterial wall. With fine caliber variations, irregularity and beading of the reflex result.

In the retina, where an artery and a vein cross, the vessels have a common adventitia, a condition that occurs nowhere else in the body. Because of this, a thickening of the arterial wall impinges on the lumen of the vein, and frequently involves the latter in an extending sclerosis. Slight arterio-venous constrictions occur normally, but the more advanced degrees are due to arteriosclerosis or hypertension. When the vein is seen narrowed beyond the point of crossing, phlebosclerosis has occurred. Since the superior temporal vein is the branch most frequently crossed by a retinal artery, it is consequently this tributary that is most frequently affected by venous thrombosis.

In *arteriosclerosis with hypertension*, the outstanding feature is a generalized arterial at-

tags on the attached vein and produces this picture.

In *retinal arteriolar sclerosis*, which accompanies and often is the earliest manifestation of malignant hypertension, the terminal arterioles are those first affected. Concentrating on the finest vessels best seen in the macular area, the ophthalmologist observes localized variations in caliber, "corkscrew" tortuosities, and increased "silver-wire" brightness of the arteriolar walls. The veins undergo localized constrictions at the crossings of both small and large arterial branches. The larger arteries for a time remain full and tortuous, branch at about right angles, and reflect a widened "copper-wire" light streak. Hemorrhages and white spots tend to be concentrated around the macula, instead of being widely scattered as in the arteriosclerotic fundus. The frequent occurrence of angiospasm has led Volhard,<sup>7</sup> Wagener,<sup>8</sup> and Agatston<sup>9</sup> to consider spasm the initial factor, and they consequently term this condition "angiospastic retinitis." But may it not be that hypertension induces a protective increase in the arterial musculature, and



Fig. 1. Bailliant's Dynamometer.

tenuation; the smaller vessels become invisible. Along with this change, the arteries straighten and branch at more acute angles. The explanation of this lies in the fact that the sclerotic process particularly affects the retrobulbar portion of the central retinal artery. With secondary longitudinal shrinkage consequently, the retinal arterial tree is sucked into the disc.

At the arterio-venous crossings the changes observable in simple arteriosclerosis become more marked. Four points are to be noted: 1. Constriction of the crossing vein. 2. Reduced translucency of the arterial walls. Whereas normally the underlying vein can be followed directly to the arterial stream, in arteriosclerosis it is not seen for a definite distance on either side. 3. The white lines, which in advanced cases produce the pipe-stem sheathing, in early cases are best seen against the background of the vein. 4. The vein changes its direction on meeting the artery to make a right-angled crossing. The artery, in changing its course in advanced arteriosclerosis,

that it is this which predisposes to spasm? However it be, hypertension definitely precedes arteriolar sclerosis, whereas senile sclerosis is primary and precedes hypertension.

Arteriosclerosis of the retinal arteries tends to terminate in arteriosclerotic retinitis, whereas the sequel of arteriolar sclerosis is the so-called "albuminuric retinitis."

In *arteriosclerotic retinitis*, vascular changes predominate. Ischemic degeneration produces an aggregation of small sharp spots, each of not much larger diameter than a retinal vein. Edema of either papilla or retina never occurs. Small or large hemorrhage are frequent, and may be superficial or deep. Distention of the veins, when present, suggests cardiac insufficiency. With the lapse of time, new hemorrhages and white spots come, while some disappear. Chorioidal sclerosis with pigmentary changes is often associated.

The better term for albuminuric retinitis is that proposed by Fishberg and Oppenheimer<sup>10</sup>—*malignant hypertensive neuroretinitis*. The typi-

cal picture includes soft "cotton-wool" exudates; retinal, papillar, and peripapillar edema; hyperemic disc; and numerous hemorrhages. The stellate figure so often seen about the macula most probably results from pre-existing edema. The arterial columns are narrowed, and the veins distended; especially so when the papilledema is marked. Keith, Wagener, and Kernohan<sup>11</sup> differentiate the ophthalmoscopic findings in essential malignant hypertension from the similar picture which may supervene in *chronic glomerulonephritis*. In the latter, the retinal edema is more extensive, peripapillar "snow-bank" exudates are frequent, the disc and retina are anemic, and sclerosis of the retinal arterioles is usually absent. Marked papilledema, reaching 5-6 diopters, may occur in this condition, and is then significant of an associated cerebral edema, incident to circulatory disturbances in the brain.

Clinically, malignant hypertensive neuroretinitis is generally seen in individuals under 50, while arteriosclerotic retinitis is most common after that age. In retinal arteriosclerosis without hypertension there is relatively little renal involvement. In patients with arteriosclerotic retinitis, death occurs most frequently from cerebrovascular accidents, cardiac failure, or coronary closure. The prognosis for life is much better, and the rate of impairment of renal function much less than in the cases of malignant hypertensive neuroretinitis.

Malignant hypertension can appear at any stage of essential hypertension. A patient with essential hypertension may suffer for twenty years before a change for the worse occurs. The advent of neuroretinitis is associated with a rapidly progressing nephritis, and indicates either that renal insufficiency is present or threatens inevitably. Death occurs generally from uremia. At autopsy necrosis of the renal arterioles has been demonstrated. Urinary findings in the course of the disease indicate that the retinal lesions precede those of the kidneys.

310 S. Michigan Ave.

#### BIBLIOGRAPHY

1. Friedenwald, H.: Pathological changes in the retinal blood vessels in arteriosclerosis and hypertension. *Tr. Ophth. Soc. Unit. King.* 50:452, 1930.
2. Lebensohn, J. E.: The determination of retinal blood-pressure. *Ill. M. J.* 48:212, 1925.
3. Bailliart, P.: *La Circulation Retinienne*. Paris. 1922.
4. Bailliart, P.: *The Retinal Circulation*. (Translation by J. E. Lebensohn.) Professional Press, Chicago. 1928.
5. Berens, C., Smith, H. T., and Cornwall, L. H.: Changes in the fundus and in the blood-pressure in the retinal arteries in increased intracranial pressure. *Arch. Neur. & Psych.* 20:1151, 1928.
6. Winther, K.: Sur la détermination de la tension intracranienne par l'ophthalmodynamomètre de Bailliart. *Acta psychiatr.* 5:403, 1930.
7. Volhard: *Verhandl. d. deutsch. Gesellsch. f. inn. Med.* 33:422, 1921.
8. Wagener, H. P.: Retinal vascular changes in hypertension. *Ann. Int. Med.* 4:222, 1930.
9. Agatson, S. A.: Retinal angiospasm. *Am. J. Ophth.* 13:309, 1930.
10. Fishberg, A. M., and Oppenheimer, B. S.: The differentiation and significance of certain ophthalmoscopic pictures in hypertensive diseases. *Arch. Int. Med.* 46:901, 1930.
11. Keith, N. M., Wagener, H. P., and Kernohan, J. W.: Syndrome of malignant hypertension. *Aarch. Int. Med.* 41:141, 1928.

#### DISCUSSION

Dr. M. L. Folk, Chicago: The intra-ocular tension must be taken previous to starting Bailliart's test. That should be brought out. I might say that this instrument is often difficult for a beginner to use, as it is hard to observe the pulsation of the artery because the cornea becomes somewhat steamy, and, as Dr. Suker said, the beginner usually overestimates the pressure of intra-ocular vessels. So that should be done carefully.

In the benign type of hypertension, Dr. Lebensohn says it presents no ophthalmoscopic changes. I think Guist of Vienna brought out that there are changes in the fundus, that is, the corkscrew appearance in the small veins in the macula. While the large vessels appear normal there is a change in the venules of the macula.

Dr. Harry Woodruff, Joliet: It may be that Dr. Lebensohn touched on the appearance in the disc of the right-angle turn of the superior vessel at the edge of the cupping. I would like to have him say something also about the cupping of the optic disc in glaucoma without tension. In a notable article by Dr. Arnold Knapp, he gave an explanation of that condition, quoting other authorities, in which he makes the statement that there is present in those cases changes, revealed by x-ray, of a sclerosis of the contiguous cerebral vessels.

Dr. James E. Lebensohn, Chicago (closing): I purposely avoided giving details of the method of use of the Bailliart dynamometer in order not to make that the principal feature of the paper. The whole matter is gone into exhaustively in my translation of Bailliart's book out since 1928. It is true, the intraocular tension must be measured before one proceeds to take the dynamometric reading. It is also important, as Dr. Suker brought out, to take the reading in each eye. If there is a question of cerebral neoplasm and one finds a high diastolic pressure in one eye, it suggests that the tumor is on the side of the higher finding. Dr. Suker objects to the explanation given for the sucking in of the arterioles of the retina. This is the conclusion of Friedenwald and is based by him on observations wherein he has found that the branching of the vessels has changed from year to year. The point of branching becomes nearer to the disc or may be sucked entirely into the disc. The question of excavation of the disc possibly is adequately explained by Bailliart who holds that one has to consider the relation between tension and blood pressure of the retinal ar-



teries. When the arteriolar pressure is relatively low, as occurs in angiosclerosis, the patient may get an anemia of the disc fibers even with normal intra-ocular tension. On the other hand, with high blood pressure, the patients very often do not develop acute symptoms but pass into the chronic state of glaucoma because they do not develop acute vascular changes. Dr. Folk speaks of Guist's finding changes in the macular vessels in benign hypertension. I believe that when such changes are seen an eventual malignant hypertension can be predicted.

## THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER\*

HARRY M. RICHTER, M. D.

CHICAGO

I wish to present to you the subject of gastric surgery from the angle of radical surgery as a routine procedure. There are many conditions in medicine of which we can say that we are familiar with the local lesion but are not familiar with the cause of the lesion. Thyroid disease presents a good example. Until recently we were totally ignorant of the nature of goiter. We looked upon it as a disease entity. Today we know it is the end result of an iodine deficiency. We are still in the same state regarding thyrotoxicosis that we were twenty years ago regarding the nature or underlying cause of goiter. We know now a great deal about thyrotoxicosis. We know the changes taking place in the gland are related to the clinical symptoms. However, we know nothing of the underlying nature of the disease which gives us the clinical picture we call thyrotoxicosis.

I am indebted to Gregory Connell for a quotation from J. A. Ryle to the effect that we should be interested in peptic ulcer, the disease, rather than peptic ulcer, the lesion.

We are quite familiar with the local lesion in peptic ulcer, with its pathology, its local changes, secondary changes and the accidents that go with it, and we are familiar with the clinical picture. Moreover, clinical medicine has made progress in the control of the lesion and the symptoms resulting from the lesion. All the studies of clinical and experimental medicine have led us nowhere as to the real cause. We know nothing of ulcer the disease. Knowing nothing of ulcer the disease we yet have made very great progress in treating the disease. Treatment by the

internist has resulted in the control of the patient's clinical picture in a very large proportion of the cases.

The surgical treatment which I wish to present to you is to be regarded as limited in its application to those cases that are resistant to adequate medical care. These include cases that are not relieved by medical care, or tend to recur; that are associated with complications of what ought to be termed a surgical character; particularly the cicatricial deformities that interfere with function; most deeply penetrating ulcers. Acute perforation is always, massive hemorrhage not always, a surgical indication. A coincident condition may be considered a contraindication, such as a major cardiac, renal or other condition. Extremes of age may at times be considered a bar. The coexistent condition may add unduly to the risk—or the life expectancy may not be great enough to justify any major surgery.

I wish to remind you that the surgical treatment of such ulcers carried out by the usual methods of limited surgical attack is directed toward the same purpose the internist carries out very effectively. Both internists and surgeons who attack the ulcer as a local lesion aim to do certain things, such as lower the acidity, enable the stomach to empty more easily, deflect the current of gastric contents, etc.

The gastro-enterostomies used for so many years have done very good work in these cases. The excision of ulcers with plastics on the pylorus has accomplished much. I wish to remind you, however, that in those cases that are not benefitted by gastro-enterostomy the patient is left in a condition that is more difficult to handle than before his operation. I think the internist's criticism has been that they are harder feeding problems than before operation.

Ulcers may be single or multiple. Scars in the mucosa may indicate that earlier ulcers have healed, and suggest that the patient may have had a series of ulcers during the course of his illness. Ulcers have healed—or been cured—only to be succeeded by a new ulcer or crop of ulcers. This holds true after treatment by the internist and probably to a material extent after conservative surgical treatment, all of which suggests to me that the underlying ulcer disease is capable of reproducing the local lesion whether it has been removed by the internist or by the

\*Read before the Joint Session at the meeting of the Illinois State Medical Society, May 18, 1933, Peoria.



surgeon, so long as the anatomic ulcer area remains.

It is quite impossible to evaluate the literature on the subject of ultimate results of gastric surgery because the reports of results are so variable. Excellent surgeons and clinicians have reported whole series of gastro-enterostomies and excisions of ulcers with results that are almost perfect, and yet if we study the literature carefully we will find equally excellent men who, studying their cases, find too many patients returning with recurrent ulcer.

Before passing from the subject of local operative work, I wish to remind you that ulcer of the lesser curvature differs from that of the duodenum in that it tends to be more extensive, more inflammatory and ultimately to form cicatricial changes that are more damaging than in the duodenum. In ulcer of the lesser curvature we often have no way of knowing from the clinical picture, from the roentgenogram or on the examining table whether we are dealing with an ulcer or carcinoma. If that is true it must be illogical to excise ulcer of the lesser curvature. Gross excision leaves a handicapped stomach. If one cannot determine whether the lesion is ulcer or carcinoma, it is illogical to destroy the ulcer *in situ* without an opportunity to study it. Local operative work in ulcer of the lesser curvature is, I think, particularly illogical. Many years ago, in my early days in surgery, the cavity of the gall-bladder was commonly regarded as the seat of disease of the gall-bladder. We opened the gall-bladder and put in a drain and that is all we did. I remember when one of my professors sutured the gall-bladder to the peritoneum and waited seventy-two hours and then opened it and took out the stones. It is realized today that when we just drain the gall-bladder we leave behind the organ which is the seat of the disease. I am sure that today surgeons are agreed that removal of the gall-bladder is the logical procedure.

May I point out to you that the segment of the gastro-intestinal tract including the lesser curvature and the first portion of the duodenum constitutes an organ analogous to the gall-bladder. It is an organ, and whatever may be the underlying cause of ulcer, it manifests itself by a lesion in that structure. My suggestion is to regard that structure as the organ to be removed as you would remove a gall-bladder. It

is a solid organ. Its surface is covered by mucous membrane. It is an organ that can be sacrificed without any more damage to the body than sacrifice of the gall-bladder, and its removal removes the opportunity or ability of the ulcer to reform.

Therefore, I present this operation not as a means of correcting over-acidity or removing infection or of doing any of those things that the internist accomplishes. I suggest it on a far more important basis, that of removing the organ in which the disease can occur. This operation does all of the other things; it enables the stomach to empty more easily; it lowers acidity. Current literature of today is paralleling very closely that of thirty years ago regarding gall-bladder surgery. If you read the literature of the English speaking countries, you see altogether too much limited surgical work advised. We seem to be very fearful of the more radical operation. We are afraid of it because it is a major operation, an operation which is on a par with and yet not more serious than, surgery of the colon or common duct.

The removal of the stomach in this way has had its development along two lines. The Billroth I operation in which the end of the stomach was united with the end of the duodenum fell into disfavor for some time but has been taken up again lately. One of the greatest surgeons in the field of gastric surgery, Haberer, prefers the Billroth I operation. The second operation in which a gastro-enterostomy is done between the closed end of the stomach and the jejunum has been modified in various ways by different surgeons. I have the feeling that the modified method of Polya and Finsterer is the ideal one today. It has the logic I mentioned. It carries with it a reasonable mortality, higher than that of gastro-enterostomy or excision of the ulcer, pyloroplasty, etc. I believe it is less than that of the minor operations if we include the mortality from recurrences, from secondary accidents, from more extensive surgery later. With that we have an excellent function and we have few complications. A famous surgeon has said that the man who removes the whole stomach for a little ulcer would not operate on him. To remove two-thirds of the stomach for a small ulcer may seem illogical to you. That thought was answered very nicely by one of our Chicago men, Dr. Alfred Strauss, who called attention to

the fact that if you have a crushed foot you do not painfully save the heel and part of the tarsus but you sacrifice the heel and lower third of the leg to get a good functioning stump. That is what we propose to do. Only one-half of the stomach is left, but it functions.

### THE IMPORTANCE OF IMMUNIZATION IN THE CONTROL OF ACUTE CON- TAGIOUS DISEASE.\*

HUBERT S. HOUSTON, M. D.

SPRINGFIELD, ILL.

The past century has witnessed some profound changes in relation to various phases of our development but few have shown a more striking transformation than the measures provided for the safeguarding of health. Notwithstanding the remarkable improvements that have been developed since the year 1800, that period was a comparatively recent one in the history of acute contagious disease. Records<sup>1</sup> indicate that several outstanding members of this group of human afflictions had their origin at a date involved in antiquity. The disease which Galen described as "the pesta magna" (and of which Marcus Aurelius died in the year A. D. 180) is believed by many to have been smallpox. There is evidence that smallpox has existed in India as far back as records go. The period of definite clinical observation of diphtheria seems to have opened with Aretaeus of Cappadocia at about the beginning of the second century. The first authentic account of typhoid fever was written in England about 300 years ago. The origin of scarlet fever is obscure, but convincing descriptions of the disease were written in the sixteenth century at Palermo. Many years later (1675) more accurate information was published by Sydenham of London.

In the past a distinction has rightly been made between infectious and contagious diseases. Typhoid and rabies are infectious rather than contagious but they are important members of the group that is preventable by specific prophylaxis. From the standpoint of immunization the entire group involved can be included under the single term of acute transmissible (communicable) disease.

The reporting of cases, in connection with

disease control, has been a comparatively recent development. Fairly satisfactory case registration in Illinois dates from 1907 in Chicago and from about 1917 down state. For practical purposes the case reports were fairly complete subsequent to those years. Mortality registration has been required for many years. Figures for the early years<sup>2</sup> were not accurate but they may be used together with official census records to give a fair estimate of the prevailing morbidity. Statistics of morbidity and mortality over a period of years are necessary in considering the value of active immunization in the control of disease. There are additional factors, other than immunization, that have contributed to the improvements in disease control. These will include the periodic physical examination of children, more effective quarantine methods and improved measures of sanitation. Army records are of value especially in regard to smallpox and typhoid fever, owing to the tremendous military losses that have been sustained, in the past, as a result of these diseases. Military authorities have been prompt in accepting specific preventive measures, and making them compulsory as soon as their status of efficiency and dependability would warrant such action.

The nature of immunity implies that in an individual granted to be susceptible, immunization to a disease can be accomplished only by contact with the toxin of that disease. This contact may occur by receiving a large dose of infection and suffering an attack of the disease; by repeated smaller doses of infection providing sub-clinical immunity; and by receiving the purified toxin of the disease in regulated doses of known quantity. The first method is dangerous, the second is too slow, and the third makes it possible to become immune to ordinary exposures, safely and in a minimum period of time.

It has long been recognized that the acute transmissible diseases cannot be considered collectively, to an advantage, but that each major member of the group constitutes an individual problem. They are, therefore, dealt with accordingly.

*Smallpox:* Jenner's<sup>1</sup> discovery in 1796 was especially remarkable, not only because of its great practical value, but also because the man, himself, had no conception of the direct cause

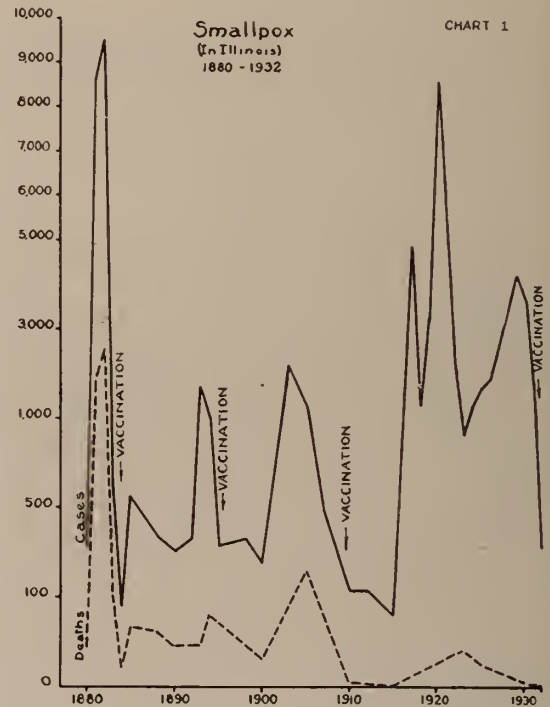
\*Read before Section on Public Health and Hygiene, Illinois State Medical Society, Peoria, May 17, 1933.



of the disease other than its possible relation to cowpox. Up to that time smallpox had been a world-wide plague. When it was introduced into Mexico<sup>3</sup> in 1520 by the Spaniards, 3,500,000 people died within a few years. According to an article published in 1901 in *American Medicine*, almost 70 per cent. of the population of Greenland died of smallpox in 1737. It caused forty-five thousand deaths annually in the United Kingdoms. The yearly number of smallpox deaths in France was approximately 150,000, and in Russia over a million in a single year.<sup>4</sup> Subsequent to the year 1800, vaccination gradually became recognized and later became compulsory in many European countries. During the Franco-Prussian war<sup>5</sup> in 1870-71 the German Army reported 4,835 cases of smallpox with 276 deaths. In the French army, which was much smaller, there were 125,000 cases with 23,470 deaths. In Germany at that time vaccination was optional but widely practiced. In France it was neglected. During the World War the French army reported approximately 5 cases with no deaths. They had learned well the lessons of 1870-71. Since 1874 a rigid vaccination law has been in force in Germany.<sup>3</sup> The average death rate from smallpox per million people before this law was 309. After the law was passed it dropped to 15; and during the past ten years it has dropped to about half of that figure. In the German army there has been but one death from smallpox reported since 1874. In our Civil War armies there were 12,236 cases of smallpox<sup>5</sup> with 4,717 deaths (38.5 per cent.). Among the cases that had *never* been vaccinated the mortality was 40 per cent. Among those who *had* been vaccinated at some time the mortality was about 2 per cent. A remarkable contrast is offered when we compare the United States and England with Continental Europe.<sup>6</sup> In 1930 there were 46,712 cases of smallpox reported in the United States, 11,839 in England and Wales, and 268 in Continental Europe (exclusive of Spain, Portugal, Greece and Russia). Of these cases, 217 were reported from France. The average annual smallpox figure for the United States is almost double that for entire Europe when the latter has about four times the population that we have. The State of Illinois had 4,249 cases of smallpox in 1929 and 3,782 cases in 1930, when Germany with almost nine times

our population, reported one case in 1929, and two in the following year.

The following figure illustrates graphically the prevalence of smallpox in this State for the past fifty years.



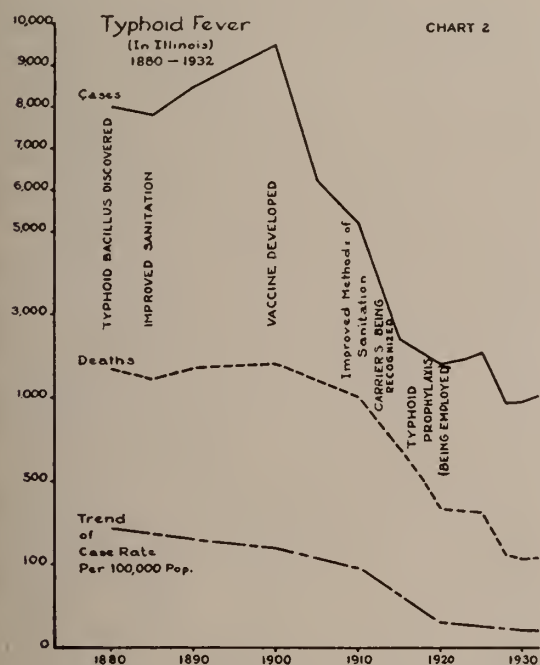
It is noted that smallpox as usual goes to extremes and shows a hectic prevalence curve. The explanation is that severe outbreaks are usually followed by wholesale vaccination and the community involved may be relatively free for a number of years during which vaccination is again neglected. The percentage of susceptible population gradually rises until a point of community susceptibility is reached that will permit another outbreak. A rapidly increasing population during the early years was accompanied by corresponding increases in the number of cases of contagious disease. The case rate, however, has over the period of years, been on the decline.

The reason for the wide difference between our present smallpox figures and those abroad is that in most countries of central and eastern Europe vaccination is compulsory. Regardless of the type of people or government, and regardless of the advisability of compulsory vaccination, the fact remains that vaccination will prevent smallpox, and that expresses its true importance.

*Typhoid Fever:* The early records of typhoid



fever are admittedly inaccurate and in this particular locality scarcely any were kept prior to the time of the Civil War. Those that are available, however, are sufficient to indicate the high case and death rates that prevailed in the early days. It was not until 1880 that the typhoid bacillus was discovered but since that time rapid strides have been made throughout the world in typhoid control. Our own commonwealth has shared abundantly in this improvement.<sup>2</sup> The following figure illustrates the typhoid situation in Illinois since the year of 1880.



It is noted that at the time of Eberth's discovery in 1880 the general prevalence curve for typhoid was on the up-grade and it was not until twenty years later that it began to show a genuine and permanent drop in the number of cases. During that twenty years many improvements were made in the field of sanitation, and work was done that later resulted in the discovery of anti-typhoid vaccine. In 1896 Pfeiffer and Kolle demonstrated that immunity could be produced by the subcutaneous inoculation of dead typhoid bacilli, and a few years later Wright and his colleagues exploited the prophylactic use of anti-typhoid vaccine and brought it into clinical application.<sup>7</sup> Typhoid prophylaxis did not come into general use until several years later (about 1908). At a slightly later date more effective sanitary improvements were

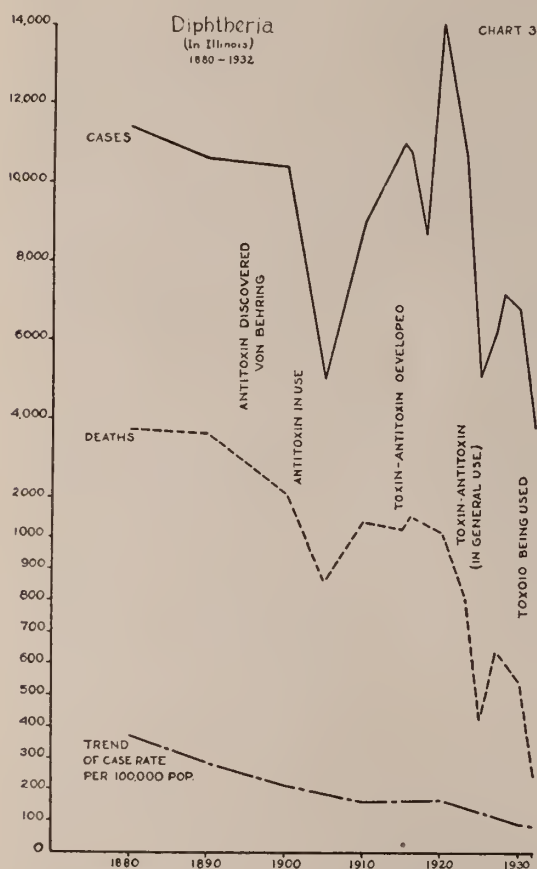
started and the importance of typhoid carrier control came to be recognized. Together these things have produced a great change in the typhoid situation.

For the most accurate early typhoid fever statistics we must turn again to the United States Army. In the Spanish-American War (1898) one out of every 71 enlisted men died of typhoid, whereas in the recent World War there was only one death from the disease in every 25,000 enlisted men. Among 11,000 men stationed at Jacksonville, Florida, during the Spanish-American War typhoid fever developed in 4,422. Typhoid inoculation was made compulsory in the Army in 1911. During maneuvers at San Antonio, Texas, that year the forces consisted of almost 13,000 men, all inoculated. There was one mild case in a man who had just started his treatment. During the same period there were 49 cases in uninoculated citizens of San Antonio, with 19 deaths.<sup>8</sup>

As a result of work done during recent years by Besredka and others, relating to local immunity against infectious disease, oral vaccination against typhoid fever has received considerable attention. The vaccine is taken orally about thirty minutes following the ingestion of approximately one gram of desiccated ox-bile (in capsules). Three doses are used at intervals of 24 hours. The bile is used to provide a favorable reaction in the stomach and intestine for the passage of the typhoid antigen. Studies<sup>9</sup> have indicated that agglutinins developed in several weeks following treatment in many of the subjects treated. This method of typhoid immunization was popular one year ago but we are not hearing much about it at the present time. We believe a course of three weekly subcutaneous injections is preferable, the first representing the equivalent of 500,000,000 disintegrated bacilli, and each of the last two doses doubling that amount. If reactions occur at all they are so slight as to be of no consequence. To our knowledge the only cases of typhoid reported in supposedly immunized persons were those in which the vaccine was either outdated or had been improperly stored. Late investigations<sup>10</sup> indicate the advantage of newly isolated typhoid cultures over old stocks in the preparation of typhoid vaccines. A distinction is made between strains in smooth and rough colonies on plate cultures. The basic factor, however, involves the

morphological differences in the non-motile, and motile varieties of typhoid organisms. The newer smooth strains are believed to be more virulent or, at least, possess greater powers for the production of immunity. The inference would be, therefore, that vaccines made from smooth strains would be preferable to the present available preparations all of which, I believe, are made from rough strains of the organisms. There are possibilities that typhoid vaccines of higher antigenic value may be available in the future. The results of anti-typhoid inoculation have been eminently satisfactory.

**Diphtheria:** In regard to the control of diphtheria more has been accomplished during the last ten years than at any previous similar period in the history of the disease. This is shown graphically in the following figure representing the diphtheria prevalence in Illinois as far back as records are available.



The downward trend of the diphtheria death rate in the United States during the past ten years is well represented by mortality returns published by the Metropolitan Life Insurance

Company<sup>11</sup> for a large section of the population numbering about 19 million insured individuals in the United States and Canada, of all ages, from one year upwards, among whom the fall in the diphtheria death rate has been much greater in proportion than the decline in the general death rate from all causes:

Diphtheria death rate per 100,000 population:

Yr.	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	*1930
	22.1	23.8	18.	15.5	12.7	10.2	9.5	10.2	9.5	8.5	6

General death-rate per 100,000 population:

Yr.	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	*1930
	989	870	883	897	848	846	885	842	869	874	873

It is the consensus of opinion that if 40 to 50 per cent. of the children under 10 years of age in a given community are actively immunized against diphtheria, an epidemic of the disease will not be likely to occur in that community. The practicability of this belief is dependent, of course, on the fairly even distribution throughout the community of those immunized; and further requires that the immunized child population include at least 35 per cent. of those in the first 5 years of life.<sup>12</sup> Experience has demonstrated the soundness of this principle in numerous instances so far as *epidemics* are concerned, but sporadic cases continue to appear with an occasional death. There is no valid excuse for the slackening of enthusiasm when a 35 per cent. or even 60 per cent. immunity has been attained in the community. Such a figure may be too low especially for organisms of greater than average virulence. With treatment so effective and so readily available it seems reasonable that at least 75 per cent. of the children under ten years of age should be given protection, and in some communities the figure is even higher. Two years ago about 85 per cent. of the children under 15 years of age in Calhoun county were immunized with toxin-antitoxin, the results being determined with a subsequent Schick test. So far as we know there has not been a single case of diphtheria reported from the county since that time.

In 1923 Ramon of the Pasteur Institute first applied toxoid to the immunization of human beings. Toxoid is prepared by adding commercial formalin to toxin, and subjecting the toxin to a temperature of about 40°C. until all toxicity is lost. The process usually requires from three to six weeks. The potency of toxoid is expressed in antigenic units, and a good prepara-

\*Incomplete for 1930.



tion should contain at least 8 antigenic units per cubic centimeter. The material distributed by the Health Department has a high antigenic value.

The advantages of toxoid over toxin-antitoxin have been quite well demonstrated during the past two or three years. It is from 20 to 30 per cent. more effective, even in only two doses; it contains no serum to sensitize children to subsequent biological therapy; it contains no free toxin and is more stable.

All children of pre-school age (6 months to 6 years), excepting those showing decided allergic tendencies, should be given protection by immunization against diphtheria. The great susceptibility of the pre-school child justifies the elimination of the preliminary Schick test; and this age group may, to an advantage, be extended to include all children under ten years of age.

Opinion is divided at the present time as to the advisability of preliminary Schick tests in the older children. This factor would depend somewhat on the community involved, as it has been shown that rural children show a higher susceptibility to diphtheria than those in the city where the opportunity is favorable for acquiring active immunity from repeated exposure to mild infections. In children over 10 or 12 years of age it is perhaps best to use the Schick test and later treat the positive reactors. Many children of this age are immune. Older children and adults show a greater tendency to reaction to toxoid than do young children, and in treating them it seems advisable, instead of giving two 1 cc. doses three weeks apart, to give at least three small doses at shorter intervals.

Toxoid has been available through the Health Department for the past two years. During that time thousands of children have been treated. Morgan county, with considerably over 8,000 children under 15 years of age, and a total population of 34,240 has had only 4 cases of diphtheria in the past year with no deaths. Two cases were children in the same family and the other two were in adults over 40 years of age. During the school year of 1931-32 about 53 per cent. of all children under 15 years of age were immunized with three doses of toxoid. Of 1,463 pre-school children living in the county, outside of Jacksonville, 43 per cent. were immunized. Of the entire group of children treated with

three doses of toxoid 99.2 per cent. were later found to be immune.

During 1932, L. W. Sauer<sup>12</sup> reported the immunization of well over 100 infants and small children (mostly under three years of age). Two 1.5 cc doses of toxoid were used four weeks apart. Six months later Schick tests were done using Schick material from at least two different well recognized biological houses. The entire group proved to be 100 per cent. Schick negative. Ford and DeWitt counties both obtained slightly less than 99 per cent. immunity with two doses. The history of diphtheria in institutions for children since the advent of specific immunization is well enough known that it needs no comment.

Over three years ago Glenny<sup>13</sup> discovered that the addition of alum to toxoid increased its power to develop antitoxin when injected into horses. Later investigation by Park<sup>14</sup> led to the use of the alum toxoid in the treatment of children. Wells, Graham and Havens<sup>15</sup> in 1932, succeeded in immunizing over 90 per cent. of a group of children with a single injection of precipitated toxoid. Later Graham<sup>16</sup> and others further demonstrated the efficacy of a single 1 cc. dose containing a maximum of 10 antigenic units. A group of 613 children of unknown Schick reaction was later shown to be 96.57 per cent. immune following a single 1 cc. injection of precipitated toxoid containing not more than 10 antigenic units. Precipitation of toxoid by alum produces a highly purified finished product that can be concentrated to almost any extent. The Chicago Board of Health has employed alum toxoid in the treatment of large numbers of children and report favorable results. Further reports on the use of this material will no doubt make their appearance in the literature.

In spite of the excellent results that have been obtained in the past with toxin-antitoxin, the advantages of toxoid are obvious. Many authorities are thinking entirely in terms of toxoid at the present time and it seems likely that the use of toxin-antitoxin will eventually be discontinued.

*Scarlet Fever:* The present conception of scarlet fever differs considerably from that of a few years ago. Immunity has not been found to develop following infections with the hemolytic streptococcus and that fact has stood strongly in the way of general acceptance of



this organism as the specific causative agent for scarlet fever. It has also retarded the progress of specific preventive measures now in the process of development. We now regard scarlet fever as a local infection in the mucous membrane of the naso-pharynx in which a soluble toxin is produced, which when absorbed into the system of the patient produces the characteristic rash and the other symptoms.

The scarlet fever prevalence in Illinois has not shown the favorable downward trend that has been manifested by some of the other diseases during the past decade. Since the year 1930, however, there has been some improvement as the following tabulation will show:

Year	Population	Cases	Deaths	Fatality rates		
				Morbidity rate (per 100,000)	Mortality rate (per 100,000)	per cent reported
1923...	6,790,524	9,481	225	139.6	3.31	2.5
1924...	6,877,737	11,702	206	170.1	2.99	1.8
1925...	7,092,000	15,688	268	221.2	3.77	1.7
1926...	7,203,000	14,243	233	197.7	3.23	1.6
1927...	7,314,000	11,787	172	140.0	2.31	1.4
1928...	7,396,000	12,355	160	167.1	2.16	1.3
1929...	7,478,000	17,298	304	231.3	4.06	1.8
1930...	7,658,590	17,352	306	226.6	3.99	1.1
1931...	7,718,000	16,775	360	216.0	4.66	2.1
1932...	7,768,000	14,876	363	191.5	3.38	1.8

The public is gradually becoming more familiar with the occasional unpleasant consequences of scarlet fever. Better cooperation generally in the control of the disease has undoubtedly contributed to the improvement shown during the past two years. Reports indicate, however, that specific scarlet fever prophylaxis has also been of value, despite the fact that further investigation and a more extended trial seem necessary in placing the preventive treatment on a satisfactory basis.

Early scarlet fever preparations often produced reactions that were almost as bad as the disease itself, with the result that many physicians have continued to be skeptical with regard to the improved products that have been developed more recently. In 1923, Doctors George F. and Gladys H. Dick developed a reliable skin test for scarlet fever susceptibility, an antitoxin for therapeutic use, and a method of active immunization against the disease. The Scarlet Fever Committee has authorized several biological houses to manufacture and place these products on the market. They have been used rather extensively in the larger cities and in institutions. The literature contains reports of

capable observers on the favorable results of scarlet fever prophylaxis. In 1929, the Dicks<sup>17</sup> reported no cases of scarlet fever among 1,191 susceptible nurses and internes who had been immunized before they began work in hospitals for patients with contagious diseases. Kiefer<sup>18</sup> in 1928 reported on the disappearance of scarlet fever from institutions in which there had been active immunization of inmates showing a positive Dick test. In the Illinois Soldiers and Sailors Children's School at Normal<sup>19</sup> several hundred positive Dick reactors were immunized during the past few years. Other work was done at St. Mary's Training School at Des Plaines. The result has been that scarlet fever disappeared from these institutions.

According to the Dick method of immunization this treatment consists of five subcutaneous injections of Dick toxin at weekly intervals in gradually increasing amounts in the following approximate doses: 500; 2,000; 8,000; 25,000; and 80,000 skin test doses. Most prominent among the symptoms reported following the injections have been elevation of temperature and vomiting. The important thing is that scarlet fever is not occurring to any extent in groups of children that have been treated. The immunity lasts for at least one year and in the great majority for a much longer period.

The controversy at the present time does not question so much the immunizing value of the toxin, but rather involves other factors that determine the extent of its use. Viewing the matter purely from the standpoint of parents of children to be treated, we must admit that immunization of children in an institution is a different matter than such work done privately. The injections of scarlet fever toxin are not free from unpleasant reactions. Such reactions are not dangerous, but they often cause parents to refuse further treatment and make physicians reluctant to use the toxin. Parents also object to the prolonged course of treatment. A few extra doses make a difference to both children and parents. There is a need for a potent scarlet fever streptococcus product that will be less toxic than the raw toxin and still effective against scarlet fever in a smaller number of doses than is required at the present time.

During recent years various studies have been made relating to the use of formalinized scarlet fever toxin as an immunizing agent. McMahon<sup>20</sup>

in 1930 reported that 72 per cent. of 176 children between the ages of 4 and 16 years were rendered negative to the Dick test following three doses of 0.5 cc., 1.0 cc., and 1.5 cc., respectively, of scarlet fever streptococcus "toxoid." The interval between doses was 21 and 25 days, respectively, and the retest was made 76 days following the last dose.

Toyoda<sup>21</sup> in 1930 worked with formalinized toxin and reported encouraging results.

Veldee,<sup>22</sup> of the U. S. Public Health Service, made detailed study of the question in 1930. Treatments were administered to 115 Dick positive children and young adults divided into four groups according to age. In most of these, three injections were given varying the interval and dose in the different groups. The average total amount given each individual was slightly over 70,000 skin test doses. One patient about 20 years of age had a moderate reaction with headache, nausea, and slight temperature following the first dose only. Another had marked general reactions after each dose. Aside from these, the reactions consisted mainly of soreness and some swelling at the site of injection. Some complained of moderate headache. A great many had no reaction of any consequence at all. The interval before retesting varied from 12 to 43 days. All gave negative Dick tests with exception of two young adults and one child about 8 years of age. The possibilities for scarlet fever toxoid are encouraging.

The further progress of scarlet fever immunization demands that it be given a more extended clinical trial by physicians generally. It is reasonable to predict that a few more years will find it as convenient and effective as diphtheria prophylaxis is at the present time.

*Whooping Cough:* In connection with the specific prophylaxis of whooping cough there is wide difference of opinion.<sup>23</sup> The identity of the causative organism is quite generally accepted, but the prophylactic value of vaccines prepared from *Hemophilus pertussis* is a much debated question. Statistics are not plentiful. During the past four years L. W. Sauer<sup>24</sup> has conducted studies in immunization against whooping cough, using vaccines prepared from recently isolated strongly hemolytic strains of *Hemophilus pertussis* grown on Bordet medium made with human blood. He has given over 1600 injections to about 300 children averaging under

3 years of age, and reports no severe local or systemic reactions. One cubic centimeter of the vaccine contains approximately 10 billion bacilli. The entire series was divided into three groups, all receiving the same total amount of vaccine; between 7 and 8 cc. (70 to 80 billion bacilli); but some were given larger doses than others, being careful that injections were never repeated in the same area.

In discussing the results of the treatment Sauer makes a distinction between "certain" and "probable" exposures. Under the former he lists eight injected children of five families and six non-immune controls. All six controls "contracted unquestionable whooping cough from two and one-half months to three years after their brothers and sisters had been injected." With one possible exception none of the injected children developed any sign or symptom of the disease although they were exposed daily to patients throughout the various stages of the disease.

The results of this work are encouraging and indicate that the procedure holds promise as a preventive measure. It will be of interest to keep in touch with further developments. Additional work is clearly indicated.

*Tuberculosis:* In view of the evidence that active immunity to tuberculosis may exist, various experiments have been conducted on healthy animals, directed toward the establishment of resistance by the injection of products prepared from modified tubercle bacilli.

A few years ago Calmette<sup>25</sup> and his associates developed a vaccine from a bovine type of tubercle bacillus that had been cultivated for long periods in the presence of bile (B. C. G.). After extended preliminary tests of the material on cattle, he undertook the immunization of children by oral administration of the B. C. G. vaccine. Encouraged by the results, he extended the treatment to several thousand children living in contact with tuberculous subjects, and reported favorably. Other workers have administered the B. C. G. vaccine by subcutaneous injection. Reports do not warrant definite conclusions but the subject is of interest at the present time.

*Rabies:* Finally, it seems to me that a discussion of this subject would be incomplete without at least making mention of the high place held by anti-rabic vaccine in the prevention of disease. While we do not usually think of rabies in connection with acute contagious disease it is



clearly transmissible, and especially during the past two years it has been quite prominent among the diseases preventable by immunization. Reflection on the hundreds of exposures to known sources of rabies infection, and the subsequent protection of those infected will bring us to recognize the tremendous importance of anti-rabic vaccine. In the few human cases of rabies that have developed during or following treatment it has usually been possible to discover that the treatment was begun too late, the material was not potent, or there was some fault in the technique.

Viewing the entire subject of immunization in its present status it is noted that few of the effective biological agents that we now use have been wholly the inspiration of any one man. (Smallpox vaccine is perhaps the only one.) They represent rather the conclusion of work begun by medical scientists of the nineteenth century. The value and importance of immunization against smallpox, diphtheria and typhoid is established, so far as ordinary exposure to infection is concerned. There is a limit to resistance or immunity, and it is perhaps in no case absolute. There is reason in the belief that a patient who has had diphtheria and continues to be exposed should be able to resist the infection in any amount, but on the contrary it is possible for such a patient to acquire an overwhelming infection that may prove fatal. The effect of immunization is not permanent in a strict sense. It simply tides us over the danger period until we are able to develop our own protective mechanism. It probably cannot accomplish more than that, and usually no more is necessary.

#### CONCLUSIONS

1. Effective measures for control of transmissible disease have developed in a comparatively recent period.

2. The consideration of immunization must involve statistics over a period of years; also other pertinent factors having to do with disease control.

3. Army records, alone, establish the importance of immunization in the control of smallpox and typhoid fever.

4. Steady progress has been made in diphtheria control, especially during the past ten years. Plain and precipitated toxoid as specific agents leave little to be desired.

5. Scarlet fever toxin undoubtedly has immunizing value but certain factors are, at the present time, retarding the progress of further developments. The possibilities for scarlet fever "toxoid" seem favorable.

6. Whooping cough immunization is a debated question but authentic favorable reports have been published. The subject needs further study.

7. More general employment of dependable specific measures would gradually modify quarantine regulations.

#### BIBLIOGRAPHY

1. Garrison's History of Medicine.
2. Rise and Fall of Disease in Illinois.
3. Crandall, F. M.: A Century of Vaccination. *American Medicine*, Pp. 895-899, Dec. 7, 1901.
4. Welch, Wm. W., and Schamberg, Jay F.: Acute Contagious Diseases: 17-30, 1905.
5. Keen, W. W.: Smallpox—A National Disgrace. *American Review of Reviews*, 1927.
6. Trend of Smallpox Incidence in Civilized Countries. *U. S. Public Health Reports*. 47:837-839, April 8, 1932.
7. Stevens, A. A.: Practice of Medicine: 91-113, 1924.
8. Octennial Report of Chicago Health Dept., 1911-18.
9. Finder, J. G. and Simon J.: *Ill. Med. Jour.*, 61:321-329.
10. Dible, J. Henry: 1932. Recent Advances in Bacteriology, 42-74.
11. (a) *U. S. Public Health Reports*, 45:1971-1974. (b) Forbes, J. Graham, 1932. Diphtheria—Its Distribution and Prevention, 452-489.
12. Sauer, L. W.: Personal Communication, 1932.
13. Glenny, A. T. and Barr, Mollie: *Jour. Path. and Bact.* 34:131—March, 1931.
14. Park, Wm. H., and Schroder, M. D.: *Am. Journal Public Health* 22:7-16, Jan., 1932.
15. Wells, D. M.; Graham, D. H.; and Havens, L. C.: *Am. Jour. Public Health* 22:648-650, June, 1932.
16. Graham, A. H.; Murphree, L. R.; and Gill, D. G.: *Jour. A. M. A.* 100:1096-1097, April 8, 1933.
17. Dick G. F.; and Dick, G. H.: *Am. Jour. Dis. Child.*, 38:905—November, 1929.
18. Kiefer, Guy L.: *Jour. A. M. A.*, 91:1885-1888.
19. Peairs, R. P.: Immunization Against Scarlet Fever. *Ill. Med Jour.*, 62:246-249. Sept., 1932.
20. McMahan, H. O.: Scarlet Fever Toxoid. *Am. J. Dis. Child.*, 39:66-69, 1930.
21. Toyoda, Taro: (1930). *Jour. Inf. Dis.*, 46:29-230.
22. Veldee, M. V.: *U. S. Public Health Reports*, 46:693-698, March, 1930.
23. Prevention and Treatment of Whooping Cough. *Lancet*, 224:434-436, Feb. 25, 1933.
24. Sauer, L. W.: *Jour. A. M. A.*, 100:239-241, Jan. 28, 1933.
25. Dible, J. Henry: 1932. Recent Advances in Bacteriology, 129-152.

#### DISCUSSION

Dr. C. George Appelle, Champaign: Perhaps, the best way to discuss this paper would be to congratulate Dr. Houston on a comprehensive and detailed discussion of a technical subject. I read his paper several days ago, and I listened to it here and enjoyed it on each occasion. What I shall say will not be in any sense technical nor confined entirely to the so-called scientific or laboratory angle, or the serological or biological angle. My remarks, perhaps, will tend more in the direction of what we see in actual practice. It is hardly worth while to say anything more about



rabies except this, that perhaps I have used the anti-rabic treatment as frequently as any of the average physicians that are called upon to use it, and on no occasion have I ever had any bad effects. The most distressing thing which I think ever happened to me in administering the anti-rabic treatment was when inadvertently I failed to remove the wire from the needle and thus plunging it into the arm and proceeded to inject with great difficulty. On withdrawing the needle I discovered that the wire had been implanted in the tissues. The gentleman of color was so alarmed that he grabbed for it with his fingers and with resulting motion it slipped under the skin where it still reposes so far as I know. That is the most distressing experience I ever had with anti-rabic treatments.

Immunization against diphtheria is very interesting to me, because a good many years ago I took toxin-antitoxin myself and it made me very sick. It was such vicious stuff in those days. I find that the toxin-antitoxin as I have given it in recent years seldom ever causes any disturbance in young children. Diphtheria toxoid I have given frequently and have never gotten any reaction in young children and the reaction you get in older people is not worth talking about because you don't give it often to the elders.

Whooping-cough immunization, I haven't found very satisfactory as yet. I have tried about all the products which have been offered. I haven't had any experience with the Sauer product. I haven't found anything to give me uniform satisfaction. I have had results which I thought were glorious, and the same material in other cases proved worthless.

The writer omitted measles immunization entirely. I don't know why, unless it is such a technical subject that the easiest way out is to dodge it altogether. But I think a little something can be done in the way of immunization against measles. It may be done either with so-called convalescent serum or adult or parent's whole blood. I have had some little experience with this procedure in actual practice and I think with considerable satisfaction. It is not very difficult to do. Other methods of measles control have been advanced, for example: Exposing young children to the disease when giving them convalescent serum or parent's blood. Of course, that might be a risky proposition. Some time ago it was proposed to have "measles tea parties," thus exposing a group of children and following up with immunization. The immunization of children against measles seems workable, at least from the little experience I have had with it.

My early experience with immunization against scarlet fever runs something like this: A man brought his boy to me for this purpose. He had considerable knowledge of bacteriology and serology and the other related biological phenomena. I gave the boy one dose. He looked over the array, the tubes increasing in size up to the 5th dose, and the man never brought the boy back for more. I never asked him why, nor did he ever offer to explain why he didn't come back. However, the product has been refined. I think, as the paper said, the only way we shall get far reaching and

definite information on the subject is when it gets to be used widely in general practice. It is manifestly a different proposition to immunize children against scarlet fever in private practice than in an institution. This proposition of having the child brought into the office and set up a howl, for five weekly treatments, and no certain gage to predict reactions is not the pleasantest thing to contemplate for either parents or practitioner. The process is tedious and reactions are possible, which are two sizeable drawbacks. Perhaps, in another ten years or so we will be using immunizing material for scarlet fever with just about as much freedom and as much satisfaction as we are using it in diphtheria today.

Another peculiar thing about scarlet fever is that we haven't any definite way of diagnosing the disease until we see the rash which is nothing more than part of a symptom complex, and by that time direct and contact exposures have been made. If there were a definite bacteriologic diagnostic procedure the exposure element could be materially minimized. About the only way to get around the difficulties which beset this problem would be to immunize all susceptible children just as we attempt to do in diphtheria at the present time. Another point has to be borne in mind as regards the control of scarlet fever; it is not even now agreed that the specificity of the organism has been fully established. The probable relation of streptococcic cellulitis, erysipelas, and puerperal sepsis to scarlet fever is worthy of consideration.

Perhaps, the main thing I should point out to you in this discussion is to give a bit of courage and inspiration in the use of some of these immunizing products and in no way discourage the use of them, because I have used them all and I haven't found any of them so dangerous that I am not willing to use them again.

Dr. W. M. Talbert, Decatur: Dr. Houston has made a very complete and enlightening review of the history and value of immunization in the control of the more important acute contagious diseases.

As he has noted what has been done in the past in various fields of immunology, and the value has been definitely proven, especially where vaccination and immunization against diphtheria has been compulsory, it occurs to me that the important thing at this time is to apply these methods of immunization. Since compulsory immunization is lacking in this State, the other alternative is to educate the public along the lines of the proven value of immunization. This is a slow process and is only accomplished with the cost of many lives. One objector who magnifies a sore arm from an immunizing serum can do more to change public sentiment than the public health department can build in years.

As the writer has pointed out, severe outbreaks of smallpox are usually followed by wholesale vaccination and then the community is relatively free from the particular disease for a number of years. In a recent pre-school inspection we found only 48 out of 472 vaccinated for smallpox. The fact that Decatur has been free from smallpox for nearly two years certainly ac-

counts for such a small percentage immunized. In an effort to stress immunization during the pre-school life of the child we included vaccination and immunization against diphtheria as requirements for a 100% child and found that only 17 out of 472 qualified in our recent inspection.

During the year 1932 there were 12 deaths in the vicinity of Decatur caused directly or indirectly by diphtheria. To combat this preventable disease the Decatur Health Council, which is composed of representatives from various agencies interested in health, instituted a program for immunization of the children of the unemployed from 1 to 16 years, inclusive. These clinics are conducted in the spring and fall of each year. The children that receive the toxoid injections during the Fall receive the Schick test with the next group in the Spring. We have about completed the third series of clinics which are held on Saturday morning at intervals of three weeks at either of the local hospitals. I am glad to say that over one thousand children attended our recent clinic for treatment by the local physicians. Last year two injections of 1.5 c.c. of toxoid was given three weeks apart. This year three injections of 1 c.c. each were given. To test the value of either method, I wish to state, that of the 214 children that received two injections of 1.5 c.c. of toxoid last year, there were only nine positive Schick tests. One of these had received only 1 injection of toxoid. Two other positive reactions received the Schick test instead of the toxoid by mistake. From these figures we consider 95% immune from 2 injections of 1.5 c.c. of toxoid three weeks apart. The per cent. immune from three injections of 1 c.c. each will be determined when this group receives the Schick test in the Fall. From a report of a local physician on 100 children who received three injections of 1 c.c. each, three weeks apart, he found 100% negative Schick test.

Another interesting fact regarding the 819 children who received toxoid at the last clinic, 18 stated that they had rather sore arms and I was called to see about one-half of them at their homes. To this group which were 9 years or over, we gave the Schick test and found all that returned for a reading to be negative. Of the remainder of the 819 I have not had a single report of a sore arm at their second injection.

Recently the Parent-Teachers organization and Decatur Health Council made a city-wide survey to determine and keep a permanent record of the total immunized and un-immunized children in Decatur. In this survey every family with children was contacted and a card made out by the worker, with regards to the following information: Date, names of parents and children and addresses. The child's age, whether they have had diphtheria and particularly stress the fact that antitoxin received for treatment of diphtheria gave only temporary immunity and that further immunization was necessary; the school attended and especially stress the necessity for pre-school immunization, whether they have been immunized and whether they have received the Schick test. The tabulation of the results of this survey showed that 43% had received at least 2 injections of toxoid and 16% had received a negative

Schick test. These cards are filed alphabetically in 2 groups, namely: immunized and non-immunized, and as the health department receives notification either from the clinic or local physician that the child has been immunized, his card is moved over to the immunized file. As births are recorded, new cards are made out when the child reaches one year of age.

*Typhoid.*—Regarding typhoid, nowhere has typhoid immunization proven more satisfactorily than in the armies, but to stress wholesale immunization in any community without regards to sanitation would be unwise. The State Department of Public Health demands that all handlers of milk or milk products be examined at least once a year for typhoid bacilli. During the year 1931 there were 14 positive typhoid reports. In 1932 there were 6, and so far this year we have no positive reports. Apparently this is weeding out the typhoid carriers among milk handlers.

Dr. Houston mentions oral administration of typhoid vaccine. Guerner compared 63,000 persons who were vaccinated orally in San Paulo, Brazil, in 1925 with 10,000 vaccinated by injection. Of the 31 cases that developed, 20 were in the sub-cutaneous group and 10 in the mouth group and one had been vaccinated both ways.

Due to the high protein content of typhoid vaccine some individuals experience reactions within 6 to 10 hours after injection, such as fever, chill, backache, headache, muscular pains and in some instances nausea and vomiting and even diarrhea. For this reason I make mention of some of the contra-indications to typhoid vaccine as listed by Beckman. Pregnancy after the 5th month, menstruation, cases of endocarditis and nephritis. Infants under two years and the dosage in children older than this should be adjusted accordingly, as their weights vary from that of the average adult of 25 years. No one with an active temperature should receive typhoid vaccine.

*Scarlet Fever.*—Owing to the wide variations of opinion as to the value of scarlet fever immunization, in private practice I find it difficult to advise parents when I am approached on the subject. I find it necessary to take some definite stand and advise them, as I would have my own children immunized for scarlet fever. I have decided to wait until scarlet fever becomes more prevalent and more virulent and then subject them to a Dick test, and, if the test is positive, administer the toxin according to dosage as outlined by Dr. Houston. The positive Dick reaction which is to be looked for between the 18th and 24th hour is characterized by a circumscribed area of redness and slight infiltration which measures 1c. in diameter. The reaction disappears more rapidly than positive Schick reaction and must therefore be observed not later than 24 hours after the test is made. I am hoping, as the writer stated, we will soon have a scarlet fever toxoid for immunization. Smythe and Nesbit reported, concerning the administration of immunizing toxin to more than 3,500 children of Gary, Ind., Public Schools in 1928, that practically no severe reactions followed the injections.

*Meningitis.*—The one disease that I feared most dur-



ing my intern service at the Isolation hospital was meningococci meningitis. I had hoped the writer would evaluate the vaccination in this particular disease. I have never used the immunizing vaccine, but according to Schamberg and Kolmer, immunization with polyvalent saline vaccines of meningococci in 3 doses by subcutaneous injection at weekly intervals may prove of value as aiding in the prophylaxis of meningococcus meningitis and especially when the disease occurs in epidemic form, the immunity thus derived, lasting about two years. Passive immunization by means of anti-meningitic serum has been suggested for immediate temporary immunity for doctors, nurses and attendants, but here again like scarlet fever antitoxin, the danger of serum sensitization and short duration of immunity outweigh its prophylactic value.

Considerable experimental work has been carried out in regards to prophylaxis of poliomyelitis, but owing to the inability to isolate any definite organism, we must content ourselves in the prevention of the paralysis by the use of convalescent polio-serum in the very earliest stages of the disease.

*Tuberculosis.*—The immunization value in TB has not been definitely proven and is not used, at least in this State, but I do wish to mention the work that has been done in Decatur last month with the tuberculin. There were 294 of the senior class tested with tuberculin. Of this number 65% did not react and 35% had varying degrees of reaction. Of the 35% positive skin test group, most of them were subjected to an x-ray of the chest and found to be negative. This is rather unusual, because, according to statistics, one or two out of every 100 high school children of this age should be found positive for TB.

*Rabies.*—During 1932 in Decatur, there were 20 positive cases of rabies in dogs that developed after biting individuals. Every case, of course, receiving the rabies vaccine. So far this year we had had 8 positive heads and 11 persons taking treatment. None of the 31 cases has developed any signs or symptoms of rabies.

So much for discussion of what has been done in the past regarding immunization. In the future I should like to see a closer relationship developed between the Public Health Department and the practitioner, bearing in mind that the Public Health Department is endeavoring at all times to aid the physician by education of the public in regards to the value of immunization, and in turn I should like to see every physician sell the immunization to his patient. Many physicians feel that it is unethical to seek to treat a patient for anything other than what the patient requests. Consequently he will find many of his patients drifting to other channels where they will secure such treatment free. The parent of a child who takes him to his family physician for some minor ailment would be far easier sold on immunization through a word or two from their Doctor, and many times could be administered then and there, than all the publicity from the public Health Department.

I do not care to see wholesale immunization at free

clinics, but if the physician neglects his side of the program I can see no other alternative, because it must be done and will be done in order to maintain public health.

Dr. I. D. Rawlings, Chicago: I was very much pleased with Dr. Houston's paper. I think the proof of immunization and the results obtained is shown by results accomplished in actual health work. I have been in the public health work in Chicago, except for the time I was in the State service, since 1899, and I know from the results achieved what has been accomplished along the lines that have been mentioned by Dr. Houston.

In the matter of typhoid, we have, as many of you know, practically no typhoid in our city. The rate is 0.4 per hundred thousand population. We have the lowest average rate of any large city of a million population in the United States. So we practically have abolished typhoid fever in the city of Chicago. Contrast this with the record in 1892. They threatened to postpone the World's Fair because of the vast quantity of typhoid in Chicago at that time. Finally water was piped from Waukesha to Chicago to allay the suspicions of the people so that the public would visit Chicago for the World's Fair.

The same record of accomplishment is true of smallpox. You can look up the old records of the city of Chicago, or the state of Illinois, either one, and you will find way back in 1871-2 they had a big outbreak of smallpox and then a lot of vaccinations, but soon interest in vaccination lapsed and in about another decade we had another extensive outbreak, the largest one being, I think in 1882 in Chicago. Again before the World's Fair vaccination had been neglected in our city and we had an extensive outbreak following the World's Fair. We had 1,043 deaths in 1894 and I don't know how many cases; over 2,500 were reported. We feel sure, however, that a smallpox outbreak will not happen after the Century of Progress Exposition because our population is well vaccinated. During the last ten years we vaccinated a much larger number of individuals in Chicago than there were births during this period, and we think we are a well vaccinated population. Last year we had eleven cases of smallpox in the city and no deaths, and some of them were imported. It shows that the public health protection given our people against smallpox has prevented the disease to a large extent.

In diphtheria, too, we find that we have, through immunization, accomplished remarkable results in that city. For example, in 1930 we had a diphtheria death rate per hundred thousand of 12.2. In 1931, it was 6.2 following immunization, chiefly among the school children. And then we started our campaign on our pre-school children, with the result that the rate dropped to 1.9 in 1932. And so far this year—that is, during the first four months of 1933, if the present rate continues throughout the year we will have a death rate of about 0.4 per cent. per hundred thousand from diphtheria. We went fifty days recently without a diphtheria death. There have been only five deaths so



far this year, as compared with 176 for the same four-month period in 1930. There is no doubt but what prevention pays in all three of those diseases.

In Chicago, we are glad that there has not been more of a campaign for immunization against scarlet fever among the general public. We feel sure if it was used generally there would be much prejudice against scarlet fever immunization because of the marked reaction. A prejudice of that kind would hamper our campaign against diphtheria very much. Our campaign is largely completed so far as the preschool and school age groups are concerned. We feel if we continue immunizing babies when they are six to nine months old, we will have our community well protected against diphtheria. We know exactly what spots have the largest percentage of non-immunized children, and we are concentrating our efforts now in those four or five areas, the Polish and Italian areas especially, where the death rate has been higher than elsewhere.

I thank you.

Dr. Houston, in closing: With regard to Dr. Appelle's remarks about measles, I stayed away from that for the reason that most of the work that is done on measles, I believe, has to do with the use of immune blood or immune serum, fresh. When you go out into some communities, some of the poor communities where you will often find so much measles there are certainly no suitable facilities for any technical procedures for collecting blood from one individual and giving it to another.

In regard to Dr. Sauer's vaccine, I usually try to get everything that Dr. Sauer writes, and read it because of the extensive research that he has done in whooping-cough. Of course, he has the facilities for conducting this work, and until it is developed a little further, it is likely that he will be able to get better results with the vaccine than anyone else might.

Dr. Talbert mentioned immunization against meningitis. There is a scarcity of literature on that subject. One rather extensive piece of work was conducted by Ridings and Corkhill, English bacteriologists. The work was done in the Sudan among thousands of natives. A little over two years ago an epidemic of meningitis occurred. They were able to isolate nine strains of the meningococcus from these cases, and they used all these strains in the preparation of a vaccine, which they used to inoculate the natives. In fact, they inoculated almost eleven thousand. As a control they used a triple typhoid vaccine, one cc. of which contained the equivalent of 200,000,000 typhoid organisms and 100,000,000 each of Para A and B. In this group they injected a similar number, leaving over two hundred thousand natives in the community that received no injection of either. The results showed very little difference in the two groups. They used typhoid vaccine as a control because they planned to not even permit those who were doing the inoculating to know the difference between the control material and the meningococcic vaccine that they had prepared. It was almost the same in appearance and they expected a reaction that would not differ very much from

the specific material for meningitis. At any rate, the uninoculated group did not develop many more cases of meningitis throughout the epidemic than those they had injected, and there was scarcely any difference at all between the two groups that had been injected, one with the meningococcic vaccine and the other with the typhoid vaccine. They concluded that the meningococcus vaccine was ineffective.

Now, I think it is important to mention again the inadvisability of getting too enthusiastic about some sort of an immunizing agent when we don't know for sure whether it is dependable. I do know from personal observation that the reaction from some of these things in the developmental stage have discredited other dependable forms of immunization, and harm has been done in that way.

---

#### BILATERAL CORONARY OCCLUSION WITH MITRAL STENOSIS: CONSIDERATION OF COMPENSATORY CIRCULATORY FAC- TORS IN THE HEART

Solomon R. Slater and Daniel Kornblum, Brooklyn (*Journal A. M. A.*, Jan. 6, 1934), report a case of both mitral stenosis and bilateral coronary occlusion which presented a tight mitral stenosis and an occlusion of all the main coronary arteries. The pathologic changes indicated that there had been for several years a progressive arteriosclerotic narrowing of the vessels and a series of thromboses leading finally to occlusion of the main coronary arteries, which in turn existed for a fairly long time. That actual infarctions of large areas had taken place at least twice was indicated by the localized areas of fibrosis, one at the base and the other at the apex of the heart. The absence of evidence of a recent thrombosis or a fresh infarction indicated that the heart was able to survive the insult that was the final stroke in occluding all the main coronaries. That the heart apparently was able to compensate fully in the presence of this pathologic condition was one of the most interesting features of this case. The edema disappeared, the liver receded, the patient was up and about for several days without symptoms, and he was discharged from the hospital with a diagnosis of rheumatic fever (inactive), generalized arteriosclerosis, mitral stenosis and insufficiency, coronary sclerosis, fibrosis of the myocardium and congestive failure improved. The patient walked out of the hospital in high spirits but on entering a taxicab he suddenly fell. On examination immediately afterward, he was pronounced dead. At autopsy the lesions found besides those of the heart were infarctions in the lung, chronic cholecystitis, fatty degeneration of the liver, cyst in the pituitary gland, and cerebral edema and congestion.

---

#### CEREBRAL CYSTS

Winchell McK. Craig and James W. Kernohan, Rochester, Minn. (*Journal A. M. A.*, Jan. 6, 1934), present cases illustrating a variety of cerebral cysts and state that the cerebral cysts encountered at operation may be congenital, inflammatory, traumatic, parasitic

or neoplastic. To the neurosurgeon, the most important and common group encountered is that which occurs with neoplasms; these were found to be associated with practically all types of primary tumors of the brain above the tentorium. A much rarer type of tumor in this situation, containing cysts, is the meningioma, of which only two were encountered. It was found that only the neoplastic cysts consistently contained xanthochromic fluid, whereas all the other cysts contained clear fluid. It was noted further that in general the more benign the glioma, the more prone it was to undergo cystic degeneration. Decompression and simple drainage was often followed by a long period of palliative relief, thus allowing the more radical procedures, such as partial or complete removal of the tumor when the patient's condition warranted. Following initial drainage, subsequent aspirations were sometimes necessary to prolong the palliation. Several operative procedures were sometimes necessary for the more benign tumors in order to remove them completely.

#### GRANULOMA COCCIDIoidES: FURTHER OBSERVATIONS ON USE OF ANTIMONY AND POTASSIUM TARTRATE AND ROENTGEN RAYS IN TREATMENT

C. C. Tomlinson and Paul Bancroft, Omaha (*Journal A. M. A.*, Jan. 6, 1934), present evidence which indicates that antimony and potassium tartrate, applied locally, is of value in the treatment of granuloma coccidioides. They cite their previous case, give its progress to date and report an additional case in which the patient has appeared to be in excellent health during the past two years, but they have continued to give him biweekly injections of the solution of antimony and potassium tartrate in doses of 5 cc. They believe that their two case reports are evidence that prolonged treatment with intravenous injections of antimony and potassium tartrate and local roentgen therapy is effective in the treatment of granuloma coccidioides. Admitting that their two apparent cures and that of Guy and Jacob do not supply conclusive evidence, they know of no other report in which comparable results have been sustained over a period of several years. They are convinced that the treatment must be continued for a long time.

#### ELECTRIC LOVE

If she wants a date—meter.  
 If she comes to call—receiver.  
 If she wants an escort—conductor.  
 If you think she's picking your pockets—detector.  
 If she's slow of comprehension—accelerator.  
 If she goes up in the air—condenser.  
 If she's hungry—feeder.  
 If she's a poor cook—discharger.  
 If she eats too much—rectifier.  
 If her hands are cold—heater.  
 If she fumes and sputters—insulator.  
 If she is narrow in her views—amplifier.

—U. S. C. Wampus.

#### CONGENITAL OBSTRUCTION OF THE SMALL INTESTINE

William E. Ladd, Boston (*Journal A. M. A.*, Nov. 4, 1933), presents a study of sixty cases (from birth to 12 years of age) of congenital intestinal obstruction due to intrinsic or extrinsic obstruction. In his series of patients there were twenty in whom the obstruction was due to malrotation. Of these nine recovered. The nine patients recovered as the result of freeing any attachment of colon or ileum to the right of the duodenum until the duodenum is entirely in view and lies to the right of the cecum and terminal ileum. Two of them had had a reduction of volvulus followed by recurrence of the obstruction which required the freeing operation for permanent relief. There were forty patients with obstruction due to intrinsic causes. Of these, eight recovered. In five patients the stenosis was in the duodenum; all of them were relieved by duodenojejunostomy. One of the patients had had a previous gastrojejunostomy which had given only temporary relief. One patient with ileal stenosis was cured by resection and ileocolostomy. One patient had an atresia of the jejunum. A jejunostomy was performed; it afforded complete relief. However, this patient contracted pneumonia two months later and died. Necropsy showed the anastomosis to be functioning perfectly with dilatation of the distal segment to normal size. Another patient had an atresia of the terminal ileum with perforation and diffuse peritonitis. He had a resection of 4 or 5 inches of terminal ileum and an ileostomy performed on the seventh day of life. An ileocolostomy was done when he was 2 months old. Observation ten months later showed him to be well at that time.

#### TREATMENT OF SCARLET FEVER WITH ANTITOXIN

The results of Luke W. Hunt, Chicago (*Journal A. M. A.*, Nov. 4, 1933), in 2,303 cases of scarlet fever of different degrees of severity, in 882 of which scarlet fever antitoxin was administered indicate that: 1. Scarlet fever antitoxin exerts a favorable influence on the clinical course of the disease. This is evidenced by a lessened severity of the febrile stage of the disease, on the course and duration of the fever, and on the extent and duration of the skin lesions. 2. Complications are less frequent in patients treated with an adequate dosage of scarlet fever antitoxin. 3. Almost all the complications that occurred in the series in which antitoxin was administered appeared in patients who received the antitoxin relatively late in the disease. 4. As in diphtheria, the best results in the treatment of scarlet fever with antitoxin on the clinical course of the disease and the prevention of complications are obtained when the antitoxin is given early in the course of the disease, and in sufficient dosage. 5. Serious complications often develop from mild cases of scarlet fever treated without antitoxin. 6. Serum reactions occurred in 22.7 per cent of the patients of the series or in 20.8 per cent if those with a history of previous administration of serum are excluded. They were not more severe and were less frequent than after the use of diphtheria antitoxin.



## EVERY ETHICAL PHYSICIAN IN THE STATE SHOULD BELONG TO THE ILLINOIS STATE MEDICAL SOCIETY

In numbers there is strength. United we stand, divided we fall. A united medical profession can brush away any and all obstacles. It is next to impossible to find a really successful physician who has obtained fame outside the pale of organized medicine.

Are all the eligible physicians in your county members of your local medical society? If non-members of local society are discovered get busy and try to induce them to join at the earliest opportunity.

Since the publication of the last edition of the

national medical directory, one thousand or more recent graduates and practitioners from other states have located in cities in Illinois. Great numbers have moved within the state from one city to another; an alarming number of physicians have died in the interim; hundreds have moved to other states and a similar number have come into Illinois from other commonwealths.

Below we publish as nearly as possible correct and up-to-date list of physicians residing in towns and cities in Illinois outside of Chicago and Cook County. No attempt had been made to indicate membership in local, state or national medical societies.

The final list of doctors residing outside of Cook County appears herewith.

ST. CHARLES (KANE)	Potter, Wendell Abel	Mershimmer, Wm. C. (Junction)
Anderson, Chas. Edward	SAN JOSE (MASON)	SHEFFIELD (BUREAU)
Haskins, Fredk. E.	Milligan, James D.	Duncan, Floyd Ernest
Lambert, Richard Jay	SAUNEMIN (LIVINGSTON)	Giltner, Otis Beryl
Langum, Ival Goodver Hanson	Coss, Osman Ames	Russell, Ben.
Lowry, Edith Belle	Ross, Chas. F.	SHELBYVILLE (SHELBY)
Meyerson Solomon B.	SAVANNA (CARROLL)	Auld, Frank Parkinson
Norton, Garret Amos	Burton, Richard C.	Hulick, Chas. Henry
Potter, Chas. Arthur	Cottral, Geo. Henry	Mizell, Adolph G.
Selling, Lowell Sinn (See Chicago)	Hussey, Lemuel Bourne	Mizell, Wm. R.
ST. DAVID (FULTON)	McGrath, Wilmer Weir	Monroe, Henry Everett
Mercey, Raymond John	Schreiter, Jos. Benj.	Thompson, Theo.
ST. ELMO (FAYETTE)	Turner, Edward Claude	Turney, Wm. G.
Lewis, Harry Overton	SAYBROOK (McLEAN)	Westervelt, J. C.
Whitefort, Arthur R.	Cline, Corles Bedford	Wilson, Robt. Bruce
Whitefort, Wm. J. (R. D. 3, Liberty, Miss.)	Hazel, John Bishop	SHELDON (IROQUOIS)
ST. FRANCISVILLE	Jenson, James	Everhart, Arthur M.
(LAWRENCE)	SCALES MOUND	Gibson, Horace
Arnold, Frank	(JO DAVIESS)	Seever, Chas. Wilber
Brian, Victor McMurry	Sutton, Roscoe E.	Wood, Henry Willis
Snider, Randolph F.	SCOTTVILLE (MACOUPIN)	SHERIDAN (LA SALLE)
ST. JACOB (MADISON)	Berryman, John Wm.	Christian, Lorne Wm.
Meriwether, Alfred P.	SEATON (MERCER)	SHERRARD (MERCER)
ST. JOSEPH (CHAMPAIGN)	Bird, Raymond Geo. (See Aleda)	Murrell, Chas. Milton
Casto, Parley Casper	Hainline, Thos. C.	SHIRLAND (WINNEBAGO)
ST. LIBORY (ST. CLAIR)	SECOR (WOODFORD)	Savage, Saml. Micajah
Heely, Louis Andrew (See Belleville)	Allen, David Wm.	SHUMWAY (EFFINGHAM)
STE. MARIE (JASPER)	SENECA (LA SALLE)	Haumesser, Geo. J. L.
Brown, Grover Cleveland	Coulter, Wilbur Edwin	Lorton, Saml. Clifford
ST. PETER (FAYETTE)	Twohey, Francis James P.	SIBLEY (FORD)
Smith, Frank S.	SESSER (FRANKLIN)	Absher, Albert Allen
SALEM (MARION)	Ward, Wm. H.	SIDELL (VERMILION)
Cunningham, Harry Auron	SEWARD (WINNEBAGO)	Dillon, Carl C.
Laney, Thos. David	Martin, Donald David	James, Thos. Franklin
Logan, Harry L.	SEYMOUR (CHAMPAIGN)	McGavran, Edward Grafton
Porter, Arthur Silas	Hartrick, Louis Eugene	SIDNEY (CHAMPAIGN)
Pribble, Eugene B.	SHABBONA (DE KALB)	Metzel, Chas. Himes
Schoonover, Herbert Eldredge	Brewer, Edwin Jason	SIGNAL HILL (EAST ST.
SANDOVAL (MARION)	Moore, Fredk. Benj.	LOUIS P. O.) (ST. CLAIR)
Carrigan, Saml. Davidson	SHANNON (CARROLL)	Boyd, Tullie Van (See East St. Louis)
SANDWICH (DE KALB)	Grassau, Andrew	McQuillan, Eugene Albert (See East
Culver, Louise L.	Mitchell, Edward P.	St. Louis)
Dakin, Roh. Griffin	SHAWNEETOWN	Spannagel, Wm. Christian (See East
Montgomery, Max Malcom	(GALLATIN)	St. Louis)
	Martin, Wm. Wallace	Wilhelmj, Chas. F. W. (See East St.
		Louis)



**SILVIS (ROCK ISLAND)**

Chapman, Wm. Day

**SIMPSON (JOHNSON)**

Kerley, Thos. B.

**SMITHSHIRE (WARREN)**

Kimery, Philip Erasmus

**SMITHTON (S. CLAIR)**

Bock, Gustavus G.

**SOMONAU (DE KALB)**

Mosher, Benj. D.

Scheppler, Fred Emanuel

**SORENTO (BOND)**

Chittum, Jason D.

**SOUTH ELGIN (KANE)**

Struve, Carl P.

**SOUTH HOLLAND (COOK)**

Walvoord, Gerrit Wm.

**SPARLAND (MARSHALL)**

Royce, Emery E.

**SPARTA (RANDOLPH)**

Boynton, Chas. Otis

Roberson, Noah Francis

Stevenson, Benj. J.

Stevenson, Nevin G.

Weir, James Wallace

Weir, Wm. Foster

**SPEER (STARK)**

McBroom, Elam Rowland

**SPRINGERTON (WHITE)**

Creemeens, Geo. L.

**SPRINGFIELD (SANGAMON)**

Amant, Harry, 719 N. 4th St.; office, 731½ E. North Grand Ave.

Armstrong, Wilber Price, 824 S. 6th St.; office, 616 E. Capitol Ave.

Armstrong, Wilber Price, Jr., 824 S. 6th St.; office, 616 E. Capitol Ave.

Aschauer, Albert Geo., 1601 W. Lawrence Ave.; office, 322½ S. 6th St.

Aschauer, Henry August, 629 N. Rutledge St.; office, 407 S. 7th St.

Bain, Walter Gelvin, 1517 S. Noble Ave.; office, St. John's Hospital

Ball, Elizabeth Browning, 710 W. Monroe St.; office, Department of Public Health

Barker, Archie Wilson, 624 S. State St.; office, 107 S. 5th St.

Barker, David Edward, 227 E. Lawrence Ave.; office, 728 E. Capitol Ave.

Baxter, Albert Crum, 1516 Holmes Ave.; office, 107 S. 5th St.

Bernard, Emil Lawrence, 815 S. Walnut St.; office, 101 N. 5th St.

Beverly, Robt. Henry (col.), 414 W. Williams Blvd.; office, 210½ S. St.

Blair, Edgar Theron, 101 S. 5th St.

Blankmeyer, Harrison Charles, 1425 Whittier Ave.; office, 205 S. 5th St.

Broadwell, Stuart, Jr., 103 N. 5th St.

Bullard, Robt. Irving, 2100 Willamore Ave.; office, 608 E. Capitol Ave.

Campbell, Robt. Kellogg, 1216 S. 7th St.; office, St. John's Sanitarium

Chestnut, Nelson Hole, 1604 W. Cook St.; office, 107 S. 5th St.

Clark, Ralph Thurman, 420 S. 7th St.

Colby, Chas. Percy, 527 E. Capitol Ave.; office, 504 E. Monroe St.

Cole, Hermon Harrison, 605 Williams Blvd.; office, 523 E. Capitol Ave.

Collins, Metta Viola, 1919 Bates Ave.

Compton, Chas. Wentworth, 728 E. Capitol Ave.

Cook, Robt. Calvin, 1418 S. 4th St.; office, Department of Public Health, State Capitol.

Copelan, Ira Chester C., 2002 Wiggins Ave.; office, 201 S. 5th St.

Correll, Levi S., 806 E. Adams St.

Cowdin, Fredk. Putnam, 1900 Wiggins Ave.; office, 320½ S. 5th St.

Day, James Allmond, 1420 Lowell Ave.; office, 500 E. Monroe St.

Deal, Don West, 1001 Williams Blvd.; office, 205 S. 5th St.

Deal, John Francis Henry, 1334 Noble Ave.; office, 205 S. 5th St.

de Freitas, Jesse Affonso, 1016 W. Vine St.; office, 116½ N. 5th St.

Deichmann, Otto Henry, 1101 Grand Blvd.; office, 107 S. 5th St.

Ditmore, David Claude, 432 S. Grand Ave. W.; office, 504 E. Monroe St.

Donovan, John Jos., 1504 S. 4th St.; office, 405½ S. 6th St.

Dugan, Richard Deyo, 1601 S. Park Ave.; office, 102½ S. 5th St.

Edstrom, Henry, 717½ S. 8th St.

Ehrhardt, Oliver Earl, 509 S. 6th St.; office, 101 S. 5th St.

Eigenmann, John Christian, 1520 S. Grand Ave. W.

Evans, Frank Nathaniel, 1635 Ruth Pl.; office, 107 S. 5th St.

Flentje, Robt., 1424 Whittier Ave.; office, 205 S. 5th St.

Frazee, Calvin A., 1003 S. 7th St.; office, 628 E. Capitol Ave.

Hagler, Arthur Lee, R. D. 6; office, 401 E. Capitol Ave.

Hagler, Elmer Ellsworth, R. D. 6; office, 401 E. Capitol Ave.

Halbert, Stanley Knox, 1027 W. Washington St.

Halpin, John Carson, 415 W. Washington St.; office, 1724 E. Washington St.

Harmon, Chas. Fredk., 1521 Whittier Ave.; office, 205 S. 5th St.

Harper, Geo. McClain, 1615 Park Ave.; office, 308 S. 4th St.

Hartley, Paul Bone, 205 S. 5th St.

Harvey, Geo. Givins, 1324 S. Douglas St.; office, 407 E. Capitol Ave.

Henkel, Herbert Bailey, 2105 Wiggins Ave.; office, 401 E. Capitol Ave.

Herndon, Richard Fleetwood, 1328 Wiggins Ave.; office, 101 S. 5th St.

Hilt, Lawrence Mershon, 208 W. Adams St.; offices, 107 S. 5th St. and Springfield Hospital

Hofferkamp, August Geo., 620 Park Ave.; office, 506 E. Monroe St.

Hole, Berton W., 1821 S. Glenwood Ave.; office, 102 N. 5th St.

Holmberg, Clara Edmunds, 1625 Holmes Ave.; office, 107 S. 5th St.

Houston, Hubert Spangler, 107 S. 5th St.

Hudson, Ben, 2449 Yale Blvd.; office, 1117½ S. Grand Ave. E.

Hunt, Gerald Charles, 1624 S. Lincoln St.; office, Deal Clinic

Irwin, James Robt., 1054 N. 1st St.

Jackman, Johnston Chas., 868 S. English St.; office, 205 S. 5th St.

Jelliffe, Martin Bushnell, 1335 Lowell Ave.; office, 504 E. Monroe St.

Jones, Florentine Barker, Jr., 1815 S. Park Ave.; office, 522 E. Capitol Ave.

Kerst, John Arthur, 721 N. 6th St.; office, 608 E. Capitol Ave.

Ketterer, Walter Rollin, 2601 S. Park Ave.; office, 600½ N. 14th St.

Knudson, Theodore James, R. D. 4; office, 628 E. Capitol Ave.

Koehler, Gottfried, 717½ E. Jackson St.; office, 504 E. Monroe St.

Kokenes, Peter Geo., 1216 S. 2d St.; office, 107 S. 5th St.

Kuly, Bernard John, 429 E. Jefferson St.; office, 205 S. 5th St.

Levis, Wm. Paul, 1002 S. 7th St.; office, 1117½ E. South Grand Ave.

Lewis, David Jos., 1420 Noble Ave.; office, 107 S. 5th St.

Lindquist, John A., 616 S. Grand Ave.; office, 401 S. 7th St.

Lockie, Geo. David, 1012 Fayette Ave.; office, 207 S. 5th St.

Lockwood, Edward Kenton, 720 S. 4th St.; office, 401 S. 7th St.

Lutyens, Geo. Benj., 1241 W. Washington St.; office, 107 S. 5th St.

Lutyens, Henry Edward, 1133 Woodland Ave.; office, 101 S. 5th St.

Macnamara, Homer P., 1820 Wiggins Ave.; office, 102 N. 5th St.

Magill, Saml. Rufus, 2029 S. 5th St.; office, 624 S. 5th St.

Martin, Delmar Ivan, 336 S. State St.; office, 301 S. 6th St.

Martini, Walter Curt, 1808 Bates Ave.; office, 523 E. Capitol Ave.

Masters, Thos. Davis, 1616 Willamore Ave.; office, 105 S. 5th St.

Matthews, Elizabeth, 527 E. Capitol Ave.

Maurer, Franklin, 700 S. 5th St.; office, 608 E. Capitol Ave.

Mautz, Geo. John, 1130 S. Walnut St.; office, 628 E. Capitol Ave.

Maxon, Oscar F., 725 S. 6th St.; office, 800 S. 6th St.

Mayes, Corwin Spencer, 400 E. Jefferson St.; office, 107 S. 5th St.

McCarthy, David Henry, 426 W. South Grand Ave.; office, 608½ E. Capitol Ave.

McMeen, Claude Vincent, 606 S. 4th St.; office, 407 S. 7th St.

McShane, John J., 1240 W. Vine St.; office, Department of Public Health, State Capitol

Metcalf, Howard Lee, 1409 S. 4th St.; office, 500 E. Monroe St.

Metz, Irving Wagner, 503 S. Grand Ave.; office, 608 E. Capitol Ave.

Meyer, John Gerhardt, 1044 Williams Blvd.; office, 611 E. Capitol Ave.

Meyer, Wm. John, 814 E. Carpenter St.

Milligan, Clarence Wilbur, 1427 Holmes Ave.; office, 405 N. 6th St.

Morris, Edward Arthur, 1120 Orendorff Parkway; office, 107 S. 5th St.

Morrison, Hugh Tucker, 115 W. Miller St.; office, 401 S. 7th St.

Munson, Saml. Edgar, 712 S. 2d St.; office, 523 E. Capitol Ave.

Neal, John Ross, 609 S. Walnut St.; Med. Dir. Abraham Lincoln Life Insurance Company, Spring and Monroe Sts.

Newman, Adolph Jacob, 2121 S. 4th St.; office, 227½ S. 5th St.  
 Norbury, Frank Parsons (See Jacksonville)  
 O'Hara, Fred Summa, 509 N. Grand Ave. E.; office, 310½ S. 5th St.  
 Otten, Harry, 1417 Park Ave.; office, 107 S. 5th St.  
 Palmer, Geo. Thos., 1525 Lowell Ave.; office, 523 E. Capitol Ave.  
 Patton, Chas. Lanphier, 1645 Leland Ave.; office, 107 S. 5th St.  
 Pearson, Emmet Forrest, 415 S. 7th St.  
 Priest, Thos. W., 508 S. Grand Ave. W.; office, 628 E. Capitol Ave.  
 Raman, Henry Benjamin, 1320 S. 12th St.; office, 131½ N. 5th St.  
 Reisch, Jacob Edgar, 862 Loraine Ave.; office, 713½ E. North Grand Ave.  
 Rolens, Murray Elbert, 1115 S. 1st St.; office, 410½ S. 5th St.  
 Rosen, Nathan, 1824 Noble Ave.; office, 107 S. 5th St.  
 Salzman, Jay Marvin, 801 S. Lincoln Ave.; office, 107 S. 5th St.  
 Sears, Harvey Washington, 626 E. Capitol Ave.  
 Service, Clarence M., 1900 Noble Ave.; office, Department of Public Health, State Capitol  
 Smith, Robt. Emmett, 1319 Lincoln Ave.; office, 628 E. Capitol Ave.  
 Southwick, Harry Holmes, 1931 S. 6th St.; office, 608 E. Capitol Ave.  
 Spindel, Enos S., 501 S. Glenwood Ave.; office, 301 S. 6th St.  
 Stahen, Geo. Willard, 2001 Bates Ave.; office, 201 S. 5th St.  
 Sterhini, Dominico A., 1708 S. State St.; office, 104 N. 6th St.  
 Stericker, Geo. Black, 624 S. 2d St.; office, 205 S. 5th St.  
 Stericker, Geo. Fredk., 624 S. 2d St.; office, 205 S. 5th St.  
 Stuart, Christopher Brown, 1040 S. 2d St.; office, 500 E. Monroe St.  
 Swift, Eugene L'Hommiedieu, 133 S. Douglas Ave.; office, 307 S. 6th St.  
 Taylor, Isaac Hollen, 115 S. Walnut St.  
 Taylor, Percy Louis, 117 W. South Grand Ave.; office, 400 E. Monroe St.  
 Trapp, Albert Rubly, 1520 S. 6th St.; office, 102 N. 5th St.  
 Tuttle, Herman H., 1314 Lowell Ave.; office, 102 N. 5th St.  
 Van Wormer, Wm. Walter, 527 E. Capitol Ave.; office, 102 N. 5th St.  
 Vernon, Geo. Heywood, Jr., 525 E. Capitol Ave.  
 Walsh, Edmund A., 107 S. 5th St.  
 Walters, Arthur E., 1130 S. Grand Ave. W.; office, 628 E. Capitol Ave.  
 Walters, John C., 508½ S. 6th St.; office, 508 S. 6th St.  
 Ware, S. A. (col.), 1520 E. Washington St.; office, 107½ S. 8th St.  
 Wightman, Grace Smithens, Department of Public Health, State Capitol  
 Woodruff, Robert Henry, 619 S. 5th St.; office, 205 S. 5th St.  
 Wright, Lyman Dresser (Rochester); office, 5th and Washington Sts.  
 Young, Wm. A., 1127 S. 2d St.; office, 227½ S. 5th St.  
 Zelle, Oscar Lewis, 1413 Park Ave.; office, 415 S. 7th St.

## SPRING GROVE (McHENRY)

Furlong, John C.

## SPRING VALLEY (BUREAU)

Davies, Raymond Evans  
 Hyslop, Orton Chas.  
 Kirby, Geo. E.  
 McShane, Gerald Stone  
 Miltenberger, Roht. Edgar  
 Moran, James Jos.  
 Rathhun, Isaac Hale  
 Schurtz, Frank B.

## STANFORD (McLEAN)

Cavins, Stanley Thos.

## STAUNTON (MACOUPIN)

Bley, David L.  
 Goff, Arthur Clark  
 Hunter, Archibald Harry  
 McBrien, Wm. L.  
 Patterson, John S.

## STEELEVILLE (RANDOLPH)

Church, Osmon Chas.  
 Wiehusch, Alfred Christoph Carl

## STEGER (WILL)

Moore, Mary Thair Courtney Brown  
 Wickensimer, John B.

## STERLING (WHITESIDE)

Allen, Stephen Alex (See Rock Falls)  
 Beard, Chas. G.  
 Bohnett, Enos, 1208, 3d Ave.; office, 302, 1st Ave.  
 Bowman, Paschall Nathaniel, 602, 3d Ave.  
 Brodrick, Frank Wilson, 1112 Locust St.; office, 302, 1st Ave.  
 Carolus, Walter I., 504, 1st Ave.; office, 218, 1st Ave.  
 Frye, Clarence Maxfield (See Rock Falls)  
 Heiss, John Ernest, 302, 1st Ave.  
 Jacobs, Herbert Max, 803, 1st Ave.  
 Keefer, Jane Reid  
 LaDue, Burdette E.  
 Maxwell, John C.  
 McCandless, Wm. Howard, 218, 1st Ave.

Parker, Chas. Eugene, 403 W. 12th St.; office, 302, 1st Ave.

Perry, Wm. Hillhouse, 408 W. 3d St.; office, 302, 1st Ave.

Porter, Howard John, 613 W. 3d St.; office, 101 E. 3d St.

Reavley, Lester Safford, 307 W. 12th St.; office, 302, 1st Ave.

Rubright, Franklin LeRoy, 302, 1st Ave.

Snavey, John Louis, 401, 2d Ave.; office, 110 E. 4th St.

Wright, Wm. Edson, 218, 1st Ave.

## STEWARDSON (SHELBY)

Stephens, Oliver Zuinglis

## STILLMAN VALLEY (OGLE)

Beehe, Arthur H.

## STOCKLAND (IROQUOIS)

Montgomery, Carl S.

## STOCKTON (JO DAVIESS)

Gustafson, J. Eric  
 Runkle, G. Darius  
 Wood, Reuben H.

## STONEFORT (SALINE)

Brewer, Gilbert Roscoe

## STONINGTON (CHRISTIAN)

Lowder, Opal Hamilton  
 Short, Wm. T.

## STRASBURG (SHELBY)

Risser, Fredk. Wm.  
 Schroeder, Fredk. W. H.

## STRAWN (LIVINGSTON)

Boies, Eugenie Ferguson  
 Goodwin, Fredk. P.

## STREATOR (LA SALLE)

Barickman, Roht. Irving, 223 Washington St.; office, 208 E. Main St.  
 Barton, Edwin Ginn, Jr., 206 E. Kent St.; office, 301 E. Main St.  
 Bendixen, Bernard O., 810 S. Park St.; office, 208 E. Main St.

Burger, Jos. Michael, 212 Sherman St.  
 Conley, David Oris, 309 LaSalle St.; Conley, David S., 115 W. Kent St.; office, 223 Main St.

Dicus, Geo. Allen, 609 Broadway; office, 221 Main St.

Dorsey, Michael F., 401 E. Main St.  
 Hill, Harry Campbell, 518 S. Bloomington St.; office, 215 E. Main St.

Howe, Lyston D., 502 Broadway; office, 219 E. Main St.

Jennings, Morgan Biddle, 724 S. Park St.; office, 224 E. Main St.

Jennings, Theresa Kline, 724 S. Park St.; office, 224 E. Main St.

Lester, Harry Sumner, 204 N. Park St.; office, 401 E. Main St.

McCord, Arthur Nelson, 311 W. Stanton St.; office, 218 E. Main St.

Munson, Fredk. Wm., 324 W. Sumner St.; office, 307 E. Main St.

Nielsen, Carl Martin, 315 E. Main St.

Powers, Geo. J., 113, 6th St.; office, 206 E. Main St.

Purcell, Albert Chas., 404 S. Park St.; office, 305 E. Main St.

Schurtz, Carl, 214 S. Bloomington St.; office, 215 E. Main St.

Seger, Jessie F. Buckley Odden

Sexton, Roy, 115 W. Wilson St.; office, 305 E. Main St.

Seymour, Ernest DeLacy, 808 S. Park St.; office, 401 E. Main St.

Wilson, Geo. Kissick, 209 E. Bridge St.; office, 401 E. Main St.

Woolley, Ida M., 302 S. Vermilion St.

## STRONGHURST

(HENDERSON)  
 Harter, Isaac Foster  
 Murray, Jonathan Halsted

## SUBLETTE (LEE)

Angear, Benj. Horace Smith

## SULLIVAN (MOULTRIE)

Johnson, Stonewall W.  
 Kilton, Weldon Branch  
 Lawson, John Fourose  
 Lucas, Jos. A.  
 Miller, Andrew D.

Williamson, Wayne Shepherd

## SUMMER HILL (PIKE)

Aiton, Mary J. Henry

## SUMNER (LAWRENCE)

Dale, Wm. R.  
 Miller, Fred E.  
 Stoll, Chas. Gilbert  
 Turner, Otis M.

## SYCAMORE (DE KALB)

Bagnall, Loyal Bland  
 Clark, Carl Edward  
 Evans, Isaac S.  
 Hemenway, Lyman G.



Nesbitt, Geo. W.  
Ovitz, John W.  
Thompson, David Orval  
Wheeler, Roy McMillan

**TABLE GROVE (FULTON)**

McGrew, Fredk. A.  
Schwambach, Louis

**TALLULA (MENARD)**

Valentine, Richard Ellis

**TAMAROA (PERRY)**

Marlow, James T.  
Stevens, Harry Ingraham

**TAMMS (ALEXANDER)**

Rosson, James Knox

**TAMPICO (WHITESIDE)**

Sheldon, John R.  
Terry, Harry Alfred

**TAYLORVILLE (CHRISTIAN)**

Armstrong, Guy L.  
Bennett, Edwin Merville  
Duncan, Perry Emory  
Herdman, Saml. Beck  
Lawler, Thos. Augustus  
Mercer, Wm. Harvey  
Monaghan, Willis Arthur  
Solliday, Monroe H.  
Tankersley, Geo. Anderson  
Turner, Albert Franklin  
Washburn, Albert T.  
Wolfe, Harlow M.  
Young, Louis Clide

**TEUTOPOLIS (EFFINGHAM)**

Weisenhorn, Edward August

**TEXICO (JEFFERSON)**

Parker, Wm. Kepler

**THAWVILLE (IROQUOIS)**

De Fries, John Christian

**THAYER (SANGAMON)**

Alderson, Arthur Seymour

**THEBES (ALEXANDER)**

Phelps, Wm. A.

**THOMASBORO (CHAMPAIGN)**

Shurtz, Richard Chas. (See Champaign)

**THOMPSONVILLE**

(FRANKLIN)

Johnson, Wm. Logan  
Roberts, Geo. S.

**THOMSON (CARROLL)**

Chipman, Nettie Genevieve

**TILDEN (RANDOLPH)**

Drake, Holly T.

**TIOGA (HANCOCK)**

Heitman, Jefferson Henry

**TISKILWA (BUREAU)**

Brown, Harry Eugene  
Nora, Jos. James  
Smucker, Esther Elizabeth

**TOLEDO (CUMBERLAND)**

Brayshaw, Floyd M.  
Rhodes, Walter R.

**TOLONO (CHAMPAIGN)**

Fishel, Glenn Francis  
Marten, John

**TOLUCA (MARSHALL)**

Peterson, Axel Emanuel

**TONICA (LA SALLE)**

Altschwager, Edwin Henry

**TOULON (STARK)**

Berfield, Clyde  
Packer, Elmer Benj.

Williamson, John Coswell  
**TOWANDA (McLEAN)**  
Boulton, Stanton S.  
Humphries, Paul Ambrose

**TOWER HILL (SHELBY)**

Corley, Homer S.  
Hitt, Ashby J.

**TREMONT (TAZEWELL)**

McIntyre, James Edward  
Rusk, John Alexander

**TRENTON (CLINTON)**

Burgess, Thos.  
Carter, Wm. A.  
Carter, Wm. Stokely  
Niess, Leonard

**TRILLA (CUMBERLAND)**

Jones, Nathan A.

**TRIUMPH (LA SALLE)**

Christian, Albert D.

**TRIVOLI (PEORIA)**

Plumer, Thos. Robt., also office (Farmington)

**TROY (MADISON)**

Billings, Wm. Wyatt  
Molden, Chas. E.

**TUSCOLA (DOUGLAS)**

Blaine, Walter C.  
Boylson, Myron Isidore  
Cletcher, John Otis  
Fuller, Geo. Howard  
Lollar, Myron E.

**ULLIN (PULASKI)**

Mathis, John B.  
Robinson, Luther Franklin  
Turney, Loamma E.

**URBANA (CHAMPAIGN)**

Allen, Jos. R. (See Champaign)  
Austin, Villairs, Thos., Carle Memorial Hospital

Bach, Irwin Woodward (See Champaign)

Beard, Jos. Howard, 1005 S. Race St.; office, Health Service Station, University of Illinois

Bell, Robt. Graham, The Outlook

Benton, Rosy L., 1006 W. Green St.  
Blackstone, Geo. Rueben, 706 S. Coler St.; office, Health Service, University of Illinois

Burres, Wm. Franklin, 208 W. Elm St.; office, 215 W. Main St.

Cain, John Richard, 711 Delaware Ave.; office, University of Illinois

Davison, Hugh Lloyd, 602 W. University Ave.

Draper, Edwin Lyon (See Champaign)  
Etheredge, Maude Lee, 1208 W. California Ave.; office, Health Service, University of Illinois

Ferree, Geo. Perry, 612 W. Illinois St.  
Gebhart, Florence Margaret Patrick, 716 Michigan Ave.

Gebhart, Harry Clifford, 716 Michigan Ave.

Gilchrist-Wheeler, Virgil Martha (Monticello); office, University of Illinois

Gillespie, James Bennett, 1210 W. California Ave.; office, Carle Hospital Clinic

Greaves, Horatio Norman (See Champaign)

Gregory, Lewis Throckmorton, 1109 Douglas Ave.; office, 110 S. Race St.

Gregory, Louis Lincoln, 506 S. Matthews Ave.; office, 110 S. Race St.  
Gulick, Clyde Denny, 412 W. California Ave.; office, 210 W. Main St.  
Hill, Everett Edward, 812 W. Illinois St.; office, 134 W. Main St.

Judah, Leopold Newburger, 5 Buena Vista Court; office, Health Service, University of Illinois  
Knappenberger, T. Gaillard (See Champaign)

Lewis, Lora Dean, 905 Race St.; office, Health Service, University of Illinois  
Little, Ethel Esther, 810 W. Michigan Ave.

Mason, James S., 908 N. Broadway; office, 129 W. Elm St.

Millbrook, May Irene, 708 W. Green St.; office, Health Service, University of Illinois

Moss, Chas. Taylor, 803 W. Nevada St.; offices (631 E. Green St., Champaign and 102 E. Main St.)

Ogden, Lynden, 711 W. Green St.  
Peterson, Joel Asbury, Carle Memorial Hospital

Rawlings, Harvey Francis (See Champaign)

Rogers, James Creighton Thos., 602 W. University St.

Scheib, Geo. F. (See Champaign)

Shurtz, Straut Watson (See Champaign)

Smith, Lucy A. Exton, 503 S. Broadway

Strohl, Harley (See Quincy)

Van Doren, Chas. L., 710 W. Oregon St.

Veirs, Willard Lewis, 205 Iowa St.; office, 129 W. Elm St.

Way, Geo. Fritz, 507 Michigan Ave.; office, 134 W. Main St.

Witting, Vito, 602 W. University Ave.

Yantis, David E., 609 W. California Ave.; office, 204 W. Elm St.

Young, Josephine Kennedy, 706 Indiana Ave.

**URSA (ADAMS)**

Parker, Frank Busby

**UTICA (LA SALLE)**

Geen, James S.  
Griswold, Lincoln B.

**VALIER (FRANKLIN)**

Montgomery, Nolan Glen

**VALMEYER (MONROE)**

Empson, Roy Geo.

**VANDALIA (FAYETTE)**

Greer, Mark  
Greer, Miller  
Mattes, Richard J., R. D. 3  
Moore, Carlyle H.

Morey, Lotharo L.

Pridmore, Geo. Wm.

Stanbery, Albert Russel

Stanbery, Geo. Alva

Williams, Asa L. T.

**VARNA (MARSHALL)**

Johnson, John Peter

Park, Geo. S.

**VENICE (MADISON)**

Lee, John E.

**VERGENNES (JACKSON)**

House, Walter Wilson

**VERMILION (EDGAR)**

Lycan, Harry



**VERMONT (FULTON)**

Hamilton, Chas. H.  
Weston, Chas. Leland

**VERSAILLES (BROWN)**

Wilson, Jos. Frank

**VICTORIA (KNOX)**

Gillespie, Thos. Walter  
Oppe, Beatrix Carpenter

**VIENNA (JOHNSON)**

Jackson, Lewis L.  
Rose, Pleasant W.  
Veach, Earl Allen

**VILLA GROVE (DOUGLAS)**

Evans, Raymond  
Gilmer, Clinton H.  
Smith, Carleton Rotramel  
Taylor, Richard W.

**VILLA PARK (DU PAGE)**

Besick, Anne C. (See Chicago)  
Chidlow, Alexander D.  
Crabtree, Joe P.  
Gelder, Mark S. (See Chicago)  
Gutzmer, Ernest Wallor  
Wales, Reginald C.

**VIOLA (MERCER)**

Miles, Walter

**VIRDEN (MACOUPIN)**

Blunk, Sanford Milton  
Morgan, Thos. Wynn

**VIRGINIA (CASS)**

Felt, Roland A.  
Lyles, Albert R.  
McGee, John Allen  
Myers, James Fitzwilliam

**WAKEFIELD (RICHLAND)**

Davis, Elijah O.

**WALNUT (BUREAU)**

Bolz, Arthur Norden  
Hopkins, James Harold  
Hopkins, Samuel W.  
Shearburn, Arthur P.

**WALTONVILLE (JEFFERSON)**

Wells, James Walter

**WAPELLA (DE WITT)**

Davis, Vesselius  
Jones, John Branson

**WARREN (JO DAVIESS)**

McGinnis, Geo. Cletus  
Renwick, Jos. Clyde

**WARRENSBURG (MACON)**

Staley, Wilbert A.

**WARRENVILLE (DU PAGE)**

Webb, Arthur Sterling, also office, (715  
Lake St., Oak Park)

**WARSAW (HANCOCK)**

Loomis, Roy Robt.  
Matzke, Saml. E.  
Miller, John

**WASHBURN (WOODFORD)**

Rackleff, Melvin Minton  
Boon, Chas. Lester  
Ireland, Frank Blair  
Watt, Benj. N.

**WASHINGTON (TAZEWELL)**

Bennett, O. Prescott  
Mansfield, Willis A.  
Monroe, Lee Ellsworth  
Zinser, Harley A.

**WATAGA (KNOX)**

Giles, Wm. Nelson

**WATERLOO (MONROE)**

Cox, A. Milton

Fults, Jacob C.

Pautler, Nicholas Boniface  
Vogel, Fredk. Geo.

**WATERMAN (DE KALB)**

Greeley, Paul E. N.

**WATSEKA (IROQUOIS)**

Buckner, Wm. Fredk.  
Dowsett, Chas. Horace  
Hedges, Luther Anderson  
Herdien, Elmer Forrest  
Milliken, Allen Perry  
Ross, Geo. Wm.  
Short, Roy Davis  
Sweimler, Myrtle Florence

**WAUCONDA (LAKE)**

Felts, Clifton  
Hubbard, Orton S.  
Ross, John Alexander

**WAUKEGAN (LAKE)**

Barnes, Clarence Albert, 604 Glen Flora  
Ave.; office, 114 N. Genesee St.  
Beck, Karl Mikael, Lake County General Hospital; office, 108 N. Genesee St.

Besley, Frederic Atwood, 1505 N. Sheridan Rd.; office, 215 N. Sheridan Rd.

Bovik, Leslie Enwroth, 401 Stanley Ave.; office, 4 S. Genesee St.

Brace, Clifford C. C. (U. S. Vet. Hospital, North Chicago); office, 4 S. Genesee St.

Branyan, Hugo, 523 N. Sheridan Rd.; office, 215 N. Sheridan Rd.  
Callahan, Geo. Brandle, 425 Steele Ct.; office, 4 S. Genesee St.

Cannon, Herbert Floyd, 314 N. Jackson St.; office, 4 S. Genesee St.

Carter, Thos. Albert (See Chicago)  
Cassidy, Geo. Philip, 307 W. Washington St.

Claeboe, Alfred Hanson, 710 Grand Ave.; office, 30 N. Genesee St.

Daniels, Chas. E., 412 Clayton St.

Ekstrand, Roland Mangus, 730 Lenox Ave.

Foley, Chas. Jos., 532 Washington St.; office, 2 S. County St.

Foley, John Donnelly, 532 Washington St.; office, 2 S. County St.

Freeland, John Elder, 416 Greenwood St., office, 17 N. Genesee St.

Gindich, Morris Hyman, 2013 Waverly Pl.; office, 321 Washington St.

Hoag, Howard Carlisle, 308 Douglas Ave.; office, 4 S. Genesee St.

Kaye, Morris Jos., 609 N. Sheridan Rd.; office, 40 N. Genesee St.

Keller, Saml. Luther, 1424 Henry Pl.; office, 215 N. Sheridan Rd.

King, Eugene Pargny (col.), 624 S. Genesee St.

Klinger, Geo., 706 Keith Ave.; office, 4 S. Genesee St.

Kompare, Louis Francis, 602, 10th St.

Kweder, David James, 616 S. Jackson St.; office, 17 N. Genesee St.

Lemery, Benj. D., 230 Ash St.; office, 405 Washington St.

Lieber, Chas., 108 N. Genesee St.

McClusky, Otto Wilber (See Kenosha, Wis.)

Miller, James Lyons, 1525 N. Jackson St.; office, 116 N. Genesee St.

Osgood, Luther James, 532 N. Genesee St.; office, 215 N. Sheridan Rd.

Palmer, John Mathiew, 220 Ridgeland Ave.; office, 38 N. Genesee St.

Pearce, Percival, 305 Glendenning Pl.; office, 125 Washington St.

Roemer, Jacob F., 432 Ash St.

Ross, Ellison Lloyd, 1509 N. Sheridan Rd.; office, 215 N. Sheridan Rd.

Smith, Robt. Gittens, 816 Mott Ave.; office, 701 S. Genesee Rd.

Stone, Florence Aurthreholt, 404 Keith St.; office, 4 S. Genesee St.

Toomajan, Harry John, 537 N. Elmwood Ave.; office, 708 McAlister Ave.

Waldmann, Louis Francis, 223 Stewart Ave.; office, 4 S. Genesee St.

Walter, John Edgar, 2026 N. Sheridan Rd.; office, 126 Madison St.

**WAVERLY (MORGAN)**

Allyn, Paul R.  
Allyn, Walter Henderson  
Crum, Edwin Wallace  
Hughes, Nathan J.

**WAYNE (DU PAGE)**

Guild, Wm. Lyman, (Wheaton)

**WAYNE CITY (WAYNE)**

Cates, Edward M.  
Dulaney, Wm. Albion

**WAYNESVILLE (DE WITT)**

Marvel, John Everett

**WELDON (DE WITT)**

Meltzer, Herman Leo

**WELLINGTON (IROQUOIS)**

Sistler, Adolph Otto

**WENONA (MARSHALL)**

Bufkin, Lindley Liddle  
Dunham, James B.  
Love, Geo. T.  
Yarnell, Oliver Benj.

**WEST BROOKLYN (LEE)**

White, Earl C.

**WEST CHICAGO (DU PAGE)**

Isherwood, Paul Alonzo  
Kinne, Harry Winfield  
Lunak, Karel J.  
Madison, Geo. L.  
McGuinness, Geo. Alfred  
Santee, Harris Ellett (See Chicago)

**WESTFIELD (CLARK)**

Anderson, Horace V.  
Hall, Joseph  
Hinkley, Junie J.  
Houser, Harvey Clifford

**WEST FRANKFORT (FRANKLIN)**

Albert, Albert S.  
Carlton, Henry Oliver, 1103 E. Poplar St.; office, Masonic Bldg.  
Eldridge, Chas. Henry, 214 E. Oak St.; office, 112½ E. Main St.  
Ellis, James J.  
Fox, Ben., 902 Poplar St.; office, 115 E. Main St.  
Greenbaum, Fredk., 111½ E. Main St.  
Johnson, John Arthur  
Koons, Chas. Edward, 402 N. Taft St.; office, Masonic Bldg.  
Lamont, Chas. Leroy  
Lane, Chas. O., 1905 E. Main St.; office, 115 E. Main St.  
MacGregor, John Angier, 902 E. Elm St.; office, 325 E. Main St.  
McInnes, Mae Harrison Dillard, 116 E. Main St.

- Modert, Alson W., West Frankfort Union Hospital  
 Wehh, Byford Hodgen  
 Williams, James Ernest (See Benton)
- WEST McHENRY (McHENRY)**  
 Froehlich, Alexander J.
- WESTMONT (DU PAGE)**  
 Gaffey, Frank Harold  
 Manning, Roy Franklin
- WEST POINT (HANCOCK)**  
 Bryant, John Rhodes  
 Gillham, C. W.
- WEST SALEM (EDWARDS)**  
 Buxton, Wm. E.  
 Houser, John A.  
 Schaefer, Herman L.  
 Weher, Timothy Chas.
- WEST UNION (CLARK)**  
 Cullop, Saml.  
 Highsmith, Chas. Otto  
 Weir, Silas Wilkin
- WESTVILLE (VERMILION)**  
 Gundrum, Mark Duane  
 Hickman, John Moore  
 Williams, Thos. P.
- WESTWOOD (CHICAGO P. O.) (COOK)**  
 Ewing, Harry Russell (See Chicago)
- WHEATON (DU PAGE)**  
 Blanchard, Frances S. Carothers  
 Dyche, Geo. Boyd  
 Guild, Wm. Lyman (See Wayne)  
 Hockman, Robt. Wm.  
 Jamison, Dan DeWitt  
 Jones, Alden Bliss  
 Lyon, Howard N. (See Chicago)  
 Manning, Geo. Nelson  
 Oelke, Emil Karl Heinrich  
 Orth, Danl. Adam (See Chicago)  
 Raach, John Henry  
 Reeder, Wm. Geo. (See Chicago)
- WHEELER (JASPER)**  
 Clagg, John Clinton  
 Wishard, Roht. Seymour
- WHITEHALL (GREENE)**  
 Billings, Junius S.  
 Carrison, Wm. H.  
 Jarman, Alonzo Russell
- McLaren, Frank Nelson  
 Peek, Everett J.
- WHITE HEATH (PIATT)**  
 Sievers, Wm. Newton
- WILLIAMSFIELD (KNOX)**  
 Oherholtzer, Edward J.
- WILLIAMSVILLE (SANGAMON)**  
 Shearl, James Monroe  
 Stuttle, Alhert L.
- WILLISVILLE (PERRY)**  
 Keller, Jacob M.
- WILLOW HILL (JASPER)**  
 Berns, Simon P.
- WILLOW SPRINGS (COOK)**  
 Baker, Ranson Bright
- WILMINGTON (WILL)**  
 Merkel, Henry Anthony  
 Willson, Chas. Reed
- WINCHESTER (SCOTT)**  
 Davis, Landis Young  
 Eckman, John Wesley, Jr.  
 Jones, Ralph Roy  
 O'Reilly, Wm. M.  
 Straight, Geo. M.
- WINDSOR (SHELBY)**  
 Donovan, John H.  
 Storm, Arthur B.
- WINFIELD (DU PAGE)**  
 Amacher, Chas. F. (See Hinsdale)
- WINNEBAGO (WINNEBAGO)**  
 Elsen, Matt  
 Howell, Wm. Sullivan
- WINSLOW (STEPHENSON)**  
 Shenherger, Jacob Francis  
 Shook, Frank James
- WITT (MONTGOMERY)**  
 Adams, John Wilson  
 Lockhart, Chas. H.
- WOODHULL (HENRY)**  
 Carlson, Carl W.  
 Cowles, Geo. Henry
- WOOD RIVER (MADISON)**  
 Baker, Lyle Lee (See St. Louis)  
 Barton, Wm. Edward  
 Kessinger, Jacob Thos.
- Konzen, Leo Henry  
 Lumley, Zoda D.  
 McKinney, Guy Lesemby  
 Morgan, Harry Price  
 Roherson, Brooks Leek  
 Rockefeller, Le Roy D.  
 Wedig, John Harrison
- WOODSTOCK (McHENRY)**  
 Baccus, Clyde Franklin  
 Brand, Eli Thos.  
 McAuliffe, Edwin Louis, R. D.  
 McClusky, Otto Wilber  
 Nelson, Oliver Earl  
 Newton, Wm. Howard  
 Sandeen, Henry Wm.  
 Wright, Glenn E.
- WORDEN (MADISON)**  
 Dorr, Chas. E.
- WYANET (BUREAU)**  
 Herrick, Richard E.  
 Nelson, Geo. Cassell
- WYOMING (STARK)**  
 McMackin, Curtis C.  
 Wead, Alma T.  
 Wead, John Trimmer  
 Wyllys, Henry A.
- XENIA (CLAY)**  
 Bryan, Jos. Lyman  
 Fatheree, Delbert E.  
 Thompson, Thos. W.
- YATES CITY (KNOX)**  
 Keene, Warren Walker
- YORKVILLE (KENDALL)**  
 Groner, Frederic Michael  
 Perkins, Lyman A.  
 Ritt, Arnold Elmer Fredk.
- YORKTOWN (TAMPICO P. O.) (Bureau)**  
 Weher, Roht.
- ZEIGLER (FRANKLIN)**  
 Evans, Claude Monroe  
 Gates, Leo Vincent  
 Jones, Thos. Alfred
- ZION (LAKE)**  
 Blanks, John Harrison  
 Brown, Mercer Thos.  
 Ruby, Wilher Olan

## USE OF DINITROPHENOL IN OBESITY AND RELATED CONDITIONS

M. L. Tainter, A. B. Stockton and W. C. Cutting, San Francisco (*Journal A. M. A.*, Nov. 4, 1933), used alpha dinitrophenol (1-2-4) in treating 113 consecutive cases of obesity. The treatment was not successful in twelve; in three because of inadequate loss of weight, probably due to insufficient dosage, and in the other nine because of undesirable reactions to the drug. An average loss of weight of between 2 and 3 pounds weekly was produced by an average daily dose of 0.3 Gm. (5 grains) of the sodium dinitrophenol, in capsules taken with meals. The drug has been administered to individual patients continuously for as long as four months without demonstrable evidences of cumulative or toxic effects. The hypertension and albuminuria associated with obesity have been improved by dinitrophenol in a limited number of patients responding with reductions of body weight. The most important side action has been a skin rash, which oc-

curred in 7 per cent of the patients and which necessitated stoppage of treatment in 4.4 per cent of them. The next most important side action was a loss of taste for salt and sweet, observed in 5.3 per cent of the patients. Both of these side actions cleared up quickly without sequelae. A suitable regimen of dinitrophenol medication for adults would appear to be an initial daily dose of 100 mg. of the sodium salt orally, taken with meals, with an increase at weekly intervals until a dose is established that causes a loss of body weight of between 2 and 3 pounds weekly or too marked or unpleasant symptoms of warmth and sweating.

## PRESENT STATUS OF VARIOUS SPINAL ANESTHETICS AND THEIR CLINICAL USEFULNESS

After a careful survey and use of several drugs, Frank W. Marvin, Boston (*Journal A. M. A.*, Nov. 4, 1933), confined his study to procaine hydrochloride, neohesin (benzoylgamma [2-methylpiperidine] propanol



hydrochloride), nupercaine, and pantocain (para-butylaminobenzoyl-dimethyl aminoethanol hydrochloride) at the Boston City Hospital during the past sixteen months without a fatality. These drugs have been used separately and in different combinations for very definite purposes, with the result that he has formed a strong opinion that it is not necessary to mix them. He advises the use of them separately for each individual case. Procaine hydrochloride and pantocain are the drugs frequently employed. Of these two drugs, pantocain offers everything that procaine hydrochloride will accomplish and has the advantage that it does not lower the blood pressure as does procain. Furthermore, clinically, it is apparently less toxic than procaine hydrochloride, besides producing a longer and more satisfactory anesthesia.

### CONJUNCTIVAL VESSELS

A. D. Ruedemann, Cleveland (*Journal A. M. A.*, Nov. 4, 1933), offers a clinical study of the blood vessels of the conjunctiva, undertaken to determine to what extent their condition would aid in the diagnosis of diseases of the blood and vascular system. His observations are: 1. The vascular system of the conjunctiva lies in two planes; the superficial layer and the branches of the anterior ciliary arteries. 2. There is a heavy capillary plexus at the limbus. 3. Speed of flow, size of vessels and the action of various substances can easily be studied in the conjunctival vessels. This field apparently offers an excellent location for physiologic vascular study, as all action is in the living tissue in normal position and under controlled conditions. 4. Pathologically, minute hemorrhages are commonly found. 5. Aneurysmal dilatations are more common than in the retina. 6. Thrombi and emboli apparently are present more commonly than had been suspected. 7. Decrease of the capillary bed in the conjunctiva has been coincident with similar change shown by the histamine flare test. 8. Although time-consuming, it seems likely that when normal standards have been established, the study will reveal sufficient information to warrant investigation of the conjunctival capillaries in all cases in which blood or vascular disease is suspected. 9. The vessels can be measured and counted and, to date, the patients have experienced no deleterious effect from the illumination.

### CHRONIC ULCERATIVE COLITIS: A DISEASE OF SYSTEMIC ORIGIN

Louis A. Buie and J. Arnold Bagen, Rochester, Minn. (*Journal A. M. A.*, Nov. 4, 1933), review in part what has been learned about the bacteriology of chronic ulcerative colitis in the last ten years and correlate the living and the postmortem pathologic conditions. They discuss the bacteriology, the proctoscopic characteristics and the microscopic characteristics in the tissue in chronic ulcerative colitis.

### AS YOU LIKE IT

Man, honest, will take anything.—*Ad in a Jacksonville paper.*

## Society Proceedings

### BOND COUNTY

The Bond County Medical Society met in the basement of the library building, Dec. 8, 1933, Called to order by the President, Dr. T. D. Brown. The main subject was, Shall the Society adopt the schedule price, presented by the State Society for Medical Aid for unemployed receiving Federal Aid. This Fee Bill was unanimously adopted. The election of officers for 1934 followed. Dr. W. C. Dixon of Greenville was elected president; Dr. J. D. Chittum of Sonento, Ill., vice-president; Dr. W. F. Easley of Greenville, Ill., secretary and treasurer; board censors: Dr. T. D. Brown, Dr. W. L. Hall and Dr. D. R. Wilkin; delegate to State Medical Society, Dr. W. C. Dixon, alternate, Dr. J. D. Chittum; program committee, Dr. W. C. Dixon, L. J. Cordonnier and W. T. Easley. The following committee appointed met with the local relief committee for relief of Indigents for Medical Care. The society adjourned.

W. C. DIXON, President.

W. T. EASEY, Secretary.

### CHAMPAIGN COUNTY

The regular monthly meeting of the Champaign County Medical Society was held on Wednesday, January 10. Drs. Jirka and Woodruff of the Department of Health of the State of Illinois, put on the program. Dr. Jirka speaking on "Tularemia" and "Amebiasis," and Dr. Woodruff on "The Doctor and Vital Statistics." Both talks were appreciated and enjoyed very much. We had an attendance of fifty-four, including the Superintendents and Technicians from each of our five Hospitals as well as the three Visiting Nurses.

Dr. Jno. O'Connell of Rantoul, was voted into membership.

Respectfully yours,

W. M. HONN, M. D., President.

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

Regular Meeting, Wednesday, January 10, 1934

#### PROGRAMME

#### LEUKOPENIAS FROM THE STANDPOINT OF THE GENERAL PRACTITIONER

Opening Statement—J. H. J. Upham, Dean, Ohio State University College of Medicine.

The Leukopenias—Special Reference to Agranulocytosis—Chas. A. Doan, Director, Dept. of Medical and Surgical Research, Ohio State University Medical School.

Discussion — Physiology — Andrew C. Ivy, Prof. Physiology and Pharmacology, Northwestern University Medical School.

Internal Medicine—Ernest E. Irons, Clinical Professor and Dean Rush Medical School.

Laryngology—Frank Novak, Jr.



**MEMORIAL MEETING**

Sunday, January 14, 1934, Three O'clock  
Murphy Memorial Hall, 50 East Erie Street.

**Programme**

Processional—Magdalen Maire, Organist.

Assembly—Cadet First Sgt. W. H. Chase, Culver Military Academy Bugler.

"Beautiful Isle of Somewhere"—Imperial Male Quartette.

N. S. Davis—Founder of the Chicago Medical Society—James B. Herrick, Society of Medical History of Chicago.

"Lead Kindly Light"—Imperial Male Quartette.

The Beneficence of Medicine—Pastor Preston Bradley, Peoples Church of Chicago.

"Crossing the Bar"—Imperial Male Quartette.

Nineteen Thirty-Three Necrology of the Chicago Medical Society by Branches (Lantern slides).

"End of the Perfect Day"—Imperial Male Quartette.

Taps—Cadet First Sgt. W. H.

Chase, Culver Military Academy Bugler.

Recessional—Magdalen Maire, Organist.

Regular Meeting, Wednesday, January 17, 1934

**Programme**

8:30 P. M. **MEDICAL ECONOMICS.**

General Survey—Peter T. Swanish, Ph. D., Head of Dept. of Economics, Loyola University.

The Philadelphia Plan—Francis A. Faught, Secretary, Philadelphia County Medical Society.

Discussion—Herman Kretschmer, Chairman, Medical Economics Committee, Chicago Medical Society.

Regular Meeting, Wednesday, January 24, 1934

**Programme**

8:30 P. M. **THE GALL BLADDER IN GENERAL PRACTICE.**

Physiology—A. J. Carlson, Chairman and Professor Physiology, University of Chicago.

Internal Medicine—George Coleman, Assistant Professor Clinical Medicine, Rush Medical College.

Surgery—George W. Crile, Cleveland Clinic, Cleveland, Ohio.

Discussion—Hugh McKenna, Head of General Surgical Department, St. Joseph Hospital.

Regular Meeting, Wednesday, January 31, 1934

**Programme**

8:30 P. M. **CANCER OF THE STOMACH.**

Early Diagnosis and Treatment—Dr. Gatewood, Clinical Prof. Surg., Rush Medical College.

Discussion—Alfred Strauss, Attending Surgeon, Michael Reese and Mt. Sinai Hospitals.

Recent Biological Advance in Cancer Research—C. C. Little, Managing Director, American Society for Control of Cancer.

Discussion—Carroll Birch, Asst. Prof. Medicine, Univ. of Ill. College of Medicine.

**MADISON COUNTY**

The Madison County Medical Society met on Jan. 5, 1934, at the Madison County Sanitarium. Dr. Thomas B. Knox, Councilor of the Sixth District, was the

speaker. His topic was "The Doctor in the Medical Care of the Unemployed." It was very extensively discussed.

Sincerely,

D. D. MONROE, Secretary.

**WINNEBAGO COUNTY**

On Tuesday evening, January 9, we held our Annual Meeting and election of officers. The following officers were elected: president, Dr. King G. Woodward; vice-president, Dr. Joseph Lundholm; secretary-treasurer, Dr. Eberhardt H. Quandt; censor, Dr. James M. Severson, and medical legal advisor, Dr. Vincent Guagliata.

We closed the year 1933 with 107 active members and a loss of only two because of unpaid dues.

An event of the evening was the election to Honorary Membership of Dr. W. L. Ransom, of Rockford, Illinois, who has practiced in this County for sixty years and who is now the oldest living graduate of Northwestern University Medical School.

During 1933 our Society held ten monthly meetings with an average attendance of 78 and thirty-seven weekly meetings with an average of 39. The spirit in our Society is excellent and we are looking forward to a better year. I remain,

Very truly yours,

E. H. QUANDT.

**Marriages**

Charles Kennedy Carey, Rushville, Ill., to Miss Geneva Strong at Mount Vernon, Dec. 10, 1933.

Philip R. McGrath to Miss Margaret Mary Watson, both of Peoria, Ill., Oct. 19, 1933.

Albert Rufus Sheldon to Miss Grace Glidden, both of Highland Park, Ill., Dec. 15, 1933.

Sylvan William Simon to Miss Jeanne Rice, both of Chicago, January 5.

Howard Wakefield to Miss Thelma I. Roach, both of Chicago, Dec. 31, 1933.

**Personals**

Dr. Charles F. Yerger has been promoted to associate clinical professor of ophthalmology at Loyola University School of Medicine.

Dr. Joseph Welfeld has been appointed associate clinical professor in the department of genito-urinary diseases at Loyola University School of Medicine.

Dr. Frank Smithies, Chicago, spoke before the Will-Grundy County Medical Society, January 10, on "Pernicious Anemia and Newer Aspects of Treatment."

At a meeting of the Iroquois County Medical

Society, January 11, Dr. Bernard Fantus, Chicago, presented a paper on "Therapy of Rheumatic Fever."

Dr. Elven J. Berkheiser, Chicago, spoke before the Peoria City Medical Society, December 19, on "Fractures of the Ankle Joint."

Dr. John G. Young has been named physician for the state reformatory at Pontiac, succeeding Dr. James A. Marshall.

Dr. Robert R. Smith, Mount Vernon, has been appointed managing officer of the Kankakee State Hospital.

Dr. Otto H. Schwarz, St. Louis, addressed the Chicago Gynecological Society, January 19, on "Treatment of the Late Toxemias of Pregnancy."

Dr. Robert C. Hitchings, Donovan, was guest of honor at a banquet, November 26, on the occasion of his sixty-seventh birthday.

The Chicago Society of Allergy was addressed, January 15, by Dr. Ludvig Hektoen and William H. Welker, Ph.D., on "Methods of Immunization" and "Autogenicity of Proteins," respectively.

Among others, Dr. Jerome R. Head discussed "Clinical Observations on the Intrapleural Pressure" before the Chicago Society of Internal Medicine, January 22.

Dr. Roderic P. O'Connor, San Francisco, spoke before the Chicago Ophthalmological Society, January 15, on "Cataract Extraction by the Undetached Conjunctival Bridge Method After Preliminary Iridectomy."

At a meeting of the Chicago Neurological Society, January 18, the speakers included Ralph W. Barris on "Optic Connections of Midbrain and Thalamus."

Dr. Kamil Schulhof addressed the McDonagh Society for Clinical Research, January 19, on "Significance of Electric Charges for the Transport of Substances in the Tissues."

Speakers before the Chicago Orthopedic Club, January 19, were Drs. Peter A. Bendixen, Davenport, Iowa, on "Fractures of the Elbow," and Claud R. G. Forrester, "Reduction of Fractures Under Local Anesthesia Together with Ambulatory Treatment."

---

### News Notes

---

—A contract has been let for the construction of the new Henrotin Polyclinic Hospital, to be

known as the Chicago Polyclinic. To be erected at a cost of about \$500,000, the new building will be six stories high and will have 100 beds.

—The Chicago Gynecological Society recently organized a maternal welfare committee to make a study of maternal and fetal mortality in Chicago. The obstetric mortality and morbidity of mothers and babies will be considered with a view to studying controllable factors.

—The Springfield Medical Club honored Drs. George F. Stericker and Wilber P. Armstrong at a dinner meeting, December 19, in observance of their completion of fifty years in the practice of medicine. Dr. Stericker graduated in 1883 from Leeds School of Medicine in Leeds, England, and Dr. Armstrong from Homeopathic Hospital College, Cleveland, in 1884. Both physicians have sons associated with them in the practice of medicine.

—The first official "memorial meeting" of the Chicago Medical Society was held, January 14, at the Murphy Memorial Hall, to honor the memory of members who died in 1933. The speakers, Dr. James B. Herrick, president of the Society of Medical History, who will review the life of Nathan Smith Davis, one of the founders of the Chicago Medical Society and the American Medical Association, and Preston Bradley, pastor, People's Church of Chicago, whose subject will be "The Beneficence of Medicine."

—Clarence C. Little, Sc.D., director, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, and managing director, American Society for the Control of Cancer, participated in a symposium on cancer before the Chicago Medical Society, January 31, discussing the "Recent Biological Advance in Cancer Research." Dr. Gatewood will speak on the "Early Diagnosis and Treatment." Dr. Little will address a public meeting in the afternoon at the Murphy Memorial Hall on "What You Can Do for Cancer Control." This session is sponsored by the woman's auxiliary of the Chicago Medical Society.

—The Women and Children's Hospital observed its seventieth anniversary, January 5-6, in conjunction with the fifth anniversary of the opening of its \$1,000,000 building. The staff is composed entirely of women physicians. The institution was founded by Dr. Mary Thompson to care for women and children of veterans of



the Civil War during an epidemic of cholera. One of the two hospitals in the city at that time did not admit women patients and the other did not allow women physicians to practice, it was reported. Maud Slye of the University of Chicago was among the speakers in the anniversary program.

—Articles of incorporation were filed, January 3, as the first step toward the creation of a medical center in Cook County. With the objective of coordinating all the medical facilities in Chicago into one great medical center, it is planned to centralize in the vicinity of Cook County Hospital. Using the present facilities as a nucleus, it is proposed to replace unrelated structures with new buildings and to improve the landscaping of the area. The purpose of the corporation, known as the Medical Park at Chicago, is to promote and establish the medical center, effect passage of favorable legislation, and arouse interest for the project. Among the directors are Drs. Bernard Fantus, Frederick Tice, Austin A. Hayden, Charles Davison and H. Edmond Quinn, and Mr. Asa S. Bacon, superintendent of Presbyterian Hospital.

—The Frances E. Willard Hospital announces the closing of its Dispensary. This action was taken after careful consideration and study on the part of the management in concurrence with the Medical Staff.

—A joint session of the Chicago Laryngological and Otological Society and the middle section of the American Laryngological, Rhinological and Otological Society was held at the Ambassador Hotel, January 9. The program was presented by the following:

Dr. Howard C. Ballenger, Bacteremia and Acute Upper Respiratory Infections.

Dr. William Mithoefer, Cincinnati, Hypertonic Muscles of the Neck as a Cause of Headaches.

Dr. Harris H. Vail, Cincinnati, Disease of the Sphenoid Sinus as a Cause of Reflex Pain in the Head.

Dr. Elmer W. Hagens, Anatomy and Pathology of the Petrous Bone, Based on the Study of Fifty Temporal Bones.

Dr. Isaac A. Abt, Postanginal Sepsis.

Leslie B. Arey, Ph.D., The Crypt Systems of the Tonsils Throughout the Life Span.

Dr. John W. Carmack, Indianapolis, Treatment of Lateral Sinus Thrombosis, with Report of

a Case of Canalization of the Sigmoid and Jugular Vein After Ligation.

Dr. Harry L. Pollock, Genuine Ozena in the Light of Recent Investigations.

Arthur Isaac Kendall, Dr.P.H., professor of research bacteriology, Northwestern University Medical School, was guest speaker at the dinner meeting, on "New Bacteriology."

—A special program of lectures and demonstrations in medicine will be held under the direction of the Mayo Foundation from March 5 to 9, inclusive. Mornings will be devoted to surgery, demonstrations of oxygen therapy and of intravenous therapy, and consideration of post-operative complications. In the afternoons medical subjects, including gastro-enterology, dermatology and syphilis, will be discussed, and a symposium on dyspnea will be held. In the evenings clinico-pathologic conferences will be conducted.

While this program is arranged primarily for the Fellows of the Foundation, visiting physicians are invited to attend.

—The woman's auxiliary to the Salina County Medical Society was organized Jan. 16, 1934. The following officers were elected: president, Mrs. J. V. Ferrell, El Dorado; vice-president, Mrs. B. B. Hutton, Harrisburg; secretary, Mrs. B. E. Montgomery; treasurer, Mrs. J. H. Gregory, El Dorado.

—Dr. Plinn F. Morse of Detroit addressed the Sangamon County Medical Society on February 1. His subject was "Differential Diagnosis of Enlargements of the Spleen."

Doctor Geza deTakats of Chicago will address the Society on March 1, subject "Diagnosis and Management of Peripheral Vascular Disease."

Deaths and case reports of tuberculosis declined in 1933 compared with 1932. Tests concerning this disease made in the diagnostic laboratories of the State Department of Public Health increased by a wide margin, rising from 15,033 to 17,395. The proportion of positive tests in 1933 was also much greater than in 1932. Positive sputums rose from 17 to 18 per cent of all tests made. Positive bloods for the fixation test rose from 5 to 7 per cent. These statistics suggest the possibility of an increase in the prevalence of tuberculosis which has not yet been reflected in case and death records.



The proportion of positives to all blood tests made for syphilis remained the same, 17 per cent, but for tests of spinal fluids the proportion of positives went up from 15 per cent in 1932 to 19 per cent in 1933. However, a much fewer number of spinal fluid tests was made, the greater proportion of positives possibly reflecting a much more chary selection of patients for this test.

The number of animal heads examined for rabies increased substantially, from 505 to 611, and the proportion of positives went up from 35 per cent to 45 per cent. Tests made for both typhoid fever and diphtheria increased very noticeably in proportion to the number of cases reported while the percentage of positives declined. This indicates alertness with respect to these diseases. There were 171,638 tests of all kinds in 1933 with 15.2 per cent positive against 162,325 in 1932 with 15 per cent positive.

A total of 64 nurses employed through the CWA have been assigned to public health duty in various localities under the supervision of the State Department of Public Health in Illinois, Dr. Frank J. Jirka, State health director, announced. It is anticipated that this number will be increased to 100 or more in the near future. For the present, the efforts of these nurses will be concentrated on promoting immunization against diphtheria, smallpox and typhoid fever. Over 325 applications have been filed for positions by unemployed nurses. Out of that number 133 have been approved for public health service and 64 of these have been assigned to duty.

At a recent meeting of the Abraham Lincoln Council of the Boy Scouts of America a silver beaver, emblem of outstanding service in boy scouting, was awarded to Dr. A. C. Baxter of Springfield. The silver beaver is the highest award in boy scout work and is granted only by the National Council of Boy Scouts of America. Dr. Baxter has given 1,142 merit badge examinations to boy scouts and has been prominently identified with the boy scout movement since its inception in central Illinois.

### Deaths

ANTHONY BALCERZAK, Chicago; Medical College, Chicago, 1909; a Fellow, A. M. A.; aged 61; died suddenly, Dec. 2, 1933.

WILLIAM STOCKTON BLUE, Ottawa, Ill.; Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1906; veteran of the Spanish-American War; aged 55; died, Dec. 24, 1933, in the Edward Hines, Jr., Hospital, Hines, Ill., of chronic myocarditis and coronary occlusion.

WILLIAM B. BUCHANAN, Chicago; Jenner Medical College, Chicago, 1908; aged 55; died, Sept. 9, 1933, of heart disease.

JAMES JOSEPH COLE, Chicago; Northwestern University Medical School, Chicago, 1903; aged 55; died, Dec. 15, 1933, of endocarditis.

GEORGE HOFFMAN, Chester, Illinois; St. Louis College of Physicians and Surgeons, 1896; a Fellow, A. M. A.; Prison Physician for many years; aged 62; died, January 10, from dilatation of the heart due to chronic myocarditis.

CARL W. KIMERY, Lerna, Ill.; Barnes Medical College, St. Louis, 1898; aged 64; died, Nov. 24, 1933, in the State Hospital, Jacksonville, of carcinoma of the liver.

AUGUST HENRY MALM, Princeton, Ill.; Barnes Medical College, St. Louis, 1895; since 1904 county coroner; aged 64; was found dead, Dec. 4, 1933, of heart disease.

JOSEPH MARZANO, Chicago; Loyola University School of Medicine, Chicago, 1931; member of the Illinois State Medical Society; aged 25; died, Dec. 21, 1933, of pneumonia.

JOHN DELBERT NICHOLS, Mooseheart, Ill.; Medical College of Indiana, Indianapolis, 1893, a Fellow, A. M. A.; medical director of the Mooseheart Hospital; aged 63; died, January 3, of pneumonia.

LYNN CECIL OLMSTEAD, Chicago; Bennett Medical College, Chicago, 1912; aged 43; died, Dec. 16, 1933, of cerebral embolism.

EDWARD PEARCE, Marshall, Ill.; Chicago Medical College, 1878; aged 83; died, Nov. 21, 1933, of arteriosclerosis.

CLIFFORD EARLE STECKBAUER, Chicago; University of Illinois College of Medicine, Chicago, 1927; a Fellow, A. M. A.; on the staff of the Illinois Eye and Ear Infirmary; aged 35; died, Dec. 28, 1933, of a self inflicted bullet wound.

ROYAL THARP, East St. Louis, Ill.; St. Louis College of Physicians and Surgeons, 1906; a member of Illinois State Medical Society, aged 49; died, December 21, from injuries received in an automobile crash.

JOHN IGNATIUS URBAN, Chicago; Jenner Medical College, Chicago, 1917; on the staff of the Norwegian-American Hospital; aged 40; was found dead, Dec. 1, 1933, of an overdose of sleeping potion.

DAVID EARL YANTIS, Urbana, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; a Fellow, A. M. A.; past president of the Champaign County Medical Society; aged 63; died, Dec. 11, 1933, in the Carle Memorial Hospital, of diabetes mellitus.



## Effective . . . in Secondary Anemia ~ **TAMATE-MERRELL**

Recent experiments\* have shown more efficient hematopoietic effect when glutamic acid is combined with iron and copper than when the mineral elements are used alone.

Tamate-Merrell presents glutamic acid (as sodium hydrogen glutamate), with iron and copper in a solution which is delightfully pleasant to take.

No discoloration to the teeth. No digestive upsets. Tamate-Merrell "steps up" the blood picture in secondary anemias, and restores the color index more quickly than iron alone or with copper.

## Salicylization ~without **Side-Effects**

In rheumatism, influenza and associated conditions, complete salicylization may now be accomplished with a maximum of effectiveness and tolerance.

Alycin, combining *natural* salicylates with a balanced alkali, is a carefully compounded formula which can be prescribed in the large doses necessary for salicylization.

The ready acceptance of Alycin by the patient and the freedom from gastric disturbances or side-effects, do not in any way detract from the therapeutic effect of the pure, natural salicylates.

\*Rider, T. H. : J. Biol. Chem. 100:243-248 (1933)

# THE WM. S. MERRELL COMPANY

CINCINNATI, U. S. A.



# LISTERS FLOUR

CASEIN PALMNUIT DIETETIC

## No Starch

prescribed in

### → Diabetes ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Listers Flour. Recipes are easy to follow and Listers Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a suitable environment

### The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey

ASSISTANT TO MEDICAL WRITERS—Research, Abstracting, Translating (all European languages). Papers prepared. Personal, individualized work. Ten years' experience in medical literature, with leading physicians and on staffs of medical journals of highest standing. Florence Annan Carpenter, 413 St. James Pl., Chicago, Ill. Tel. Lincoln 5807.

### FOR SALE:

Large and Lucrative surgical and general medical practice. Sale account of death. Established 25 years. Fully equipped, extensive practice over several Counties, Town of 23,000 population. Beautiful offices, located in Large Modern Bank Building. Rent reasonable. Wonderful opening for highclass Experienced Surgeon with some funds.

Mrs. Karl F. Snyder, Freeport, Illinois.

### FIGURES

A census taker asked the woman at the door:

"How many in your family?"

"Five," snapped the answer, "me, the old man, kid, cow and cat."

"And the politics of your family?"

"Mixed. I'm a Republican, the old man's a Democrat, the kid's wet, the cow's dry and the cat's a populist."



**"PLEASE, DOCTOR—  
DON'T SAY MILK!"**

NO DOUBT many little patients would like to "tip off" the doctor beforehand—milk can become so monotonous—the sameness of taste—the sameness of color.

Cocomalt mixed with milk is quite another story! Children adore its creamy chocolate flavor. And prepared as directed, it adds 70% more caloric value to milk. Provides *extra* proteins, carbohydrates, minerals (calcium and phosphorus)—plus Vitamin D for proper utilization of the calcium and phosphorus. It is licensed by the Wisconsin University Alumni Research Foundation. Comes in powder form, easy to mix with milk—delicious HOT or COLD. At grocery and good drug stores in ½-lb. and 1-lb. air-tight cans. Also in 5-lb. cans for hospital use, at a special price.

### FREE TO DOCTORS

We will be glad to send a trial-size can of delicious Cocomalt free to any doctor requesting it. Merely send this coupon with your name and address.

R. B. DAVIS Co., Dept. 72B, Hoboken, N. J.

Please send me a trial-size can of Cocomalt without charge.

Dr. ....

Address .....

City ..... State .....



Cocomalt is accepted by the Committee on Foods of the American Medical Association. It is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring, and added Vitamin D.

# ST. JOSEPH'S HEALTH RESORT

*Located on the  
beautiful Fox River*

**WEDRON • ILLINOIS**

*"The"  
Illinois Baden*

*73 Miles from Chicago*



Thoroughly equipped Health Resort. Every modern convenience. — Hydro-Therapy — Electro-Therapy — Massage — Dietetics. Treatments for Rheumatism, High Blood Pressure — Neuritis — Kidney Troubles — Liver Ailments — Diabetes — Nervousness.

Ideal for convalescents—and vacationists—home like environments—excellent cuisine—registered nurses—moderate rates—40 acres of ground.

Conducted by Sisters, Mission Workers of the Sacred Heart.

*Write or phone for full  
information*

TELEPHONE: OTTAWA 9129

## CONSULTING STAFF

FREDERICK TICE, Chicago—Medical  
PHILIP H. KREUSCHER, Chicago—Surgical  
FRANCIS J. GERTY, Chicago—Neuropsychiatrist  
JAMES H. HUTTON, Chicago—Endocrinology

## ATTENDING STAFF

GEORGE KLUMPNER, Ottawa—Medical  
JOHN H. EDGEComb, Ottawa—Surgical  
W. P. FREAD, Ottawa—Eye, Ear, Nose & Throat  
F. L. HOXEY, Ottawa—Dental

# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director; Alberto L. de Guevara, M. D., Asso. Medical Director

**Naperville, Illinois**

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis.

Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

# The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago





## In Convalescence When Feeding Is Difficult

When appetite lags, digestion is impaired and the patient balks at the very foods most needed to rebuild strength and vitality, the question of feeding the patient adequately often becomes a problem.

Here is where Ovaltine can be used to excellent advantage. Clinical experience of its use over many years shows that it can often be taken and well tolerated when other foods are rejected by the patient. It has an enticing flavor and appetite appeal, and imposes no strain upon the digestive function.

Ovaltine, too, enhances the nutritive value of the diet. It adds to it vital food elements, including the essential minerals, iron, calcium and phosphorus, as well as reinforcing the diet with important vitamins such as the appetite-producing and antineuritic vitamin B.

Ovaltine, too, considerably increases the digestibility of milk by breaking up the

heavy curd of cow's milk into a light, easily digested coagulum.

Where nervous irritability, pain or worry interfere with sound sleep, a drink of warm Ovaltine often works wonders and lulls the patient into refreshing slumber without the use of drugs.

*Why not let us send you a trial supply of Ovaltine? If you are a physician, dentist or nurse, you are entitled to a regular package. Send coupon together with your card, professional letterhead or other indication of your professional standing.*

# OVALTINE

*The Swiss Food-Drink*

Manufactured under license in U. S. A. according to original Swiss formula

**This offer is limited only to practicing physicians, dentists and nurses**

THE WANDER COMPANY  
180 No. Michigan Ave.  
Chicago, Ill.

IM 2

Please send me, without charge, a regular size package of OVALTINE. Evidence of my professional standing is enclosed.

Dr. ....

Address .....

City..... State.....

Canadian subscribers should address coupons to A. Wander, Limited, Elmwood Park, Peterborough, Ontario.

## Cut Out This Page and Post Conspicuously

### BUYERS INDEX

#### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 24

#### FOODS

Biovegetin Products, Inc., 500 N. Dearborn St., Chicago.... 10  
Borden Co., New York City..... 14  
California Fruit Growers Exchange..... 30  
R. B. Davis Co., Hoboken, N. J..... 20  
Lister Bros., 41 E. 42nd St., New York City..... 20  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass..... ..  
The Wander Company, 180 N. Michigan Ave., Chicago.... 22

#### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 29

#### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 31  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago..... 24

#### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill..... 7  
Armour & Co., Chicago..... 16  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford..... 8  
Ciba Company, Cedar & Washington Sts., New York City.. 35  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago.... 29  
Davies Rose & Co., Boston, Mass..... 20  
Denver Chemical Co..... 32  
Emerson Drug Co., Baltimore.....12, 13  
Gallia Laboratories, 450 7th Ave., New York City..... ..  
Harrower Laboratory, 160 N. La Salle St., Chicago..... 25  
Hoffman-La Roche, Inc., Nutley, N. J..... ..

Adolphe Hurst & Co., Inc., 330 W. 42nd St., New York City 24  
Hydrosal Co., Cincinnati..... ..  
Hynson, Westcott & Dunning, Charles and Chase Sts., Baltimore ..... 8  
Lilly, Eli & Co., Indianapolis, Ind..... 18  
Merck and Co., Rahway, N. J..... 6  
Wm. S. Merrell Co., Cincinnati..... 19  
Metz Laboratories, Inc., New York..... ..  
Norwegian Medicinal Cod Liver Oil..... 34  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 24  
Reed & Carnrick, Jersey City, N. J..... ..  
Schering and Glatz, Inc., New York City..... ..  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit..... 17  
United Drug Co., Boston and St. Louis..... ..  
Wm. R. Warner & Co., 113 W. 18th St., New York City.. 15  
Winthrop Chemical Co., 117 Judson St., New York City.. ..  
John Wyeth & Bro., Inc., Philadelphia..... 4

#### SANATORIA AND SANITARIA

Cincinnati Sanitarium, Cincinnati, Ohio..... 31  
Edward Sanatorium, Naperville, Ill..... 21  
Kenilworth Sanitarium, Kenilworth, Ill..... 33  
Michell Farm Sanitarium, Peoria, Ill..... 36  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 33  
North Shore Health Resort, Winnetka, Ill..... 36  
Oconomowoc Health Resort, Oconomowoc, Wis..... 36  
Phoenix Chamber of Commerce, Phoenix, Ariz..... 31  
St. Joseph's Health Resort, Wedron, Ill..... 21  
Tucson Sunshine-Climate Club..... 35  
Waukesha Springs Sanitarium, Waukesha, Wis..... 33  
Wilgus Sanitarium, Rockford, Ill..... 33

#### SCHOOLS

Bancroft School, Haddonfield, N. J..... 20



R<sub>x</sub>

. . . . SAFEGUARD YOUR PATIENT

» *Metaphyllin* «

(Aminophyllin N.N.R.)

For Angina Pectoris, Coronary Thrombosis, and  
other painful heart conditions.

COUNCIL ACCEPTED

Byk, Inc.



New York

Obtainable thru

ADOLPHE HURST &amp; CO., INC., 330 West 42nd St., New York, N. Y.

**FAT DIGESTION**The facilitation of the digestion of fat is best accomplished by evacuating  
intestines through the use of a bile salts cholagogue.**TAUROCOL (TOROCOL) TABLETS**is a scientific combination of bile salts with  
cascara sagrada and phenolphthalein . . .  
laxative, cathartic, increases peristalsis, increases  
flow of bile, stimulates the bile producing cells  
of the liver.

Dosage: 1 tablet t.i.d.

VERA PERLES  
of Sandalwood  
Compound . . .  
another Plessner  
product.

THE PAUL PLESSNER CO., DETROIT, MICH.



IM2-34

**Cook County Graduate School of Medicine**

(In affiliation with COOK COUNTY HOSPITAL)

**ANNOUNCES CONTINUOUS COURSES****MEDICINE**—General and Intensive Courses,  
all branches. (Two weeks Intensive Course  
starting February 12, 1934. Attendance  
limited.)**PEDIATRICS** — Informal Course — Four  
Weeks Intensive Course, starting May 7,  
1934. Attendance limited.**OBSTETRICS** — Informal Course — Two  
Weeks Intensive Course.**GYNECOLOGY**—Three Months Course—  
Two Weeks Course—Special Courses.**FRACTURES AND TRAUMATIC SUR-  
GERY**—Informal Course—Ten Day In-  
tensive Course, starting February 26, 1934.  
Attendance limited.**ROENTGENOLOGY**—Special and Compre-  
hensive Courses.**CYSTOSCOPY**—Intensive Course. Attend-  
ance limited.**UROLOGY**—General Course Two Months—  
Intensive Course Two Weeks.**SURGERY**—General Course One, Two, Three  
and Six Months; Surgical Technique Two  
Weeks Intensive Course—Special Courses.General, Intensive or Special Courses in Tuberculosis, Orthopaedic  
Surgery, Dermatology and Syphilis, Ophthalmology, Ear, Nose  
and Throat, Pathology, Neurology, Proctology, Electrocardiography,  
Topographical and Surgical Anatomy, Physical Therapy, Gastroen-  
terology, Allergy.Teaching Faculty—Attending Staff of Cook County  
Hospital

Address: Registrar, 427 South Honore Street, Chicago, Ill.

Trademark  
Registered**STORM**Trademark  
Registered**Binder and Abdominal Supporter**Gives perfect  
uplift. Is worn  
with comfort  
and satisfaction.  
Made of Cotton,  
Linen or Silk,  
Washable as  
underwear.  
Three distinct  
types, many var-  
iations of each.

The Picture Shows "Type N"

Storm belts adaptable to all conditions, Ptois, Hernia,  
Pregnancy, Obesity, Sacro-Iliac Relaxations, High and  
Low Operations, etc.

Ask for Literature

**KATHERINE L. STORM, M.D.**

Originator, Owner and Maker

1701 Diamond St.

Philadelphia

AD R E N O -S P E R M I N

is a balanced formula valuable in favoring conditions that raise a lowered blood-pressure and counteract symptoms of general endocrine weakness and fatigue. Obtain Adreno-Spermin in packages of 100 sanitablets or capsules at \$3.00, and in boxes of five 1-cc. ampules at \$2.00. Prescribe it in neurasthenia, depletion, hypotension, and

**CONVALESCENCE AFTER INFLUENZA**



The HARROWER LABORATORY, Inc.

GLENDALe, CALIF.  
920 E. Broadway

NEW YORK, N. Y.  
9 Park Place

CHICAGO, ILL.  
160 N. La Salle St.

DALLAS, TEX.  
833 Allen Bldg.

PORTLAND, ORE.  
316 Pittock Block



# ILLINOIS STATE MEDICAL SOCIETY

## OFFICERS OF SECTIONS ILLINOIS STATE MEDICAL SOCIETY, 1933-1934

### SECTION ON MEDICINE

R. F. Herndon, Chairman, Springfield  
Don C. Sutton, Secretary, Chicago.

### SECTION ON SURGERY

George W. Post, Chairman, Chicago.  
B. V. McClanahan, Secretary, Galesburg.

### SECTION ON EYE, EAR, NOSE AND THROAT

Geo. S. Duntley, Chairman, Macomb.  
O. B. Nugent, Secretary, Chicago.

### SECTION ON PUBLIC HEALTH AND HYGIENE

J. H. Beard, Chairman, Urbana.  
Lloyd Arnold, Secretary, Chicago.

### SECTION ON RADIOLOGY

Robert F. Arens, Chairman, Chicago.  
F. Flynn, Secretary, Decatur.

### SECRETARIES' CONFERENCE

H. A. Felts, President, Marion.  
Elizabeth R. Miner, Vice-President, Macomb.  
C. D. Snively, Secretary, Ipava.

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

County	President	Secretary
Adams	H. J. Jurgens, Quincy	Walter Stevenson, Quincy.
Alexander	R. E. Barrows, Cairo	J. S. Johnson, Cairo.
Bond	W. C. Dixon, Greenville	Wm. T. Easley, Greenville.
Boone	M. L. Hartman, Belvidere	E. F. Dettmann, Belvidere.
Brown	John G. Ash, Mt. Sterling	C. B. Dearborn, Mt. Sterling.
Bureau	R. Herrick, Wyanet	C. R. Bates, Depue.
Calhoun	No Society.	
Carroll	W. J. Scholes, Lanark	H. R. Sword, Milledgeville.
Cass	A. R. Lyles, Virginia	D. E. Haworth, Beardstown.
Champaign	W. M. Honn, Champaign	W. F. Lamkin, Champaign.
Christian	W. S. Miller, Assumption	Perry E. Duncan, Taylorville.
Clark	H. G. Anderson, Westfield	H. C. Houser, Westfield.
Clay	N. W. Bowman, Flora	H. D. Fehrenbacher, Flora.
Clinton	H. B. Warren, Breese	W. S. Carter, Trenton.
Coles-Cumberland	H. A. Shaffer, Charleston	E. E. Richardson, Mattoon.
Cook	Austin A. Hayden, Chicago	Thomas P. Foley, Chicago.
Crawford	L. B. Highsmith, Flat Rock	J. W. Long, Robinson.
De Kalb	James C. Ellis, De Kalb	C. E. Smith, De Kalb.
De Witt	Chas. W. Carter, Clinton	Wm. R. Marshall, Clinton.
Douglas	C. O. Norris, Arthur	George H. Fuller, Tuscola.
Du Page	Harry W. Kinne, West Chicago	A. R. Rikli, Naperville.
Edgar	Bertha L. Clinton, Paris	George H. Hunt, Paris.
Edward	H. L. Schaefer, West Salem	A. J. Boston, Albion.
Effingham	F. M. Phillips, Farina	T. F. Reuther, Effingham.
Fayette	A. R. Whitefort, St. Elmo	G. A. Stanberry, Vandalia.
Ford	H. N. Boshell, Melvin	L. D. Kelsheimer, Paxton.
Franklin	J. J. Ellis, W. Frankfort	W. H. Smith, Benton.
Fulton	G. L. Stoehr, London Mills	C. D. Snively, Ipava.
Gallatin	J. A. Womack, Equality	J. C. Murphy, Ridgway.
Greene	O. J. Gause, White Hall	W. H. Garrison, White Hall.
Hancock	R. F. Sheets, Carthage	W. P. Frazier, Carthage.
Hardin	L. D. Dusch, Golconda	J. L. Paris, Elizabethtown.
Henderson	C. J. Eads, Oquawka	I. F. Harter, Stronghurst.
Henry	R. H. Stewart, Galva	P. J. McDermott, Kewanee.
Iroquois	Myrtle Swemier, Watseka	W. F. Buckner, Watseka.
Jackson	B. F. Crain, Carbondale	Edward K. Ellis, Murphysboro.
Jasper	W. A. Jack, Newton	G. C. Brown, St. Marie.
Jefferson Hamilton	T. A. Clark, Mt. Vernon	Andy Hall, Mt. Vernon.
Jersey	H. R. Bohannon, Jerseyville	B. M. Brewster, Fieldon.
Jo Daviess	W. S. Lewis, E. Dubuque	R. E. Logan, Galena.
Johnson	Wm. Thompson, Cypress	G. K. Farris, Vienna.
Kane	R. H. Graham, Aurora	K. M. Manougian, Elgin.
Kankakee	G. H. Ayling, Kankakee	J. H. Gamet, Momence.
Kendall	No Society.	
Knox	C. G. Johnson, Galesburg	L. N. Tate, Galesburg.
Lake	G. Q. Grady, Highland Park	W. L. Winters, Highland Park.
La Salle	E. H. Rayson, Earlville	Roswell T. Pettit, Ottawa.
Lawrence	Wm. R. Mangum, Bridgeport	R. L. Gordon, Lawrenceville.
Lee	David Murphy, Dixon	K. B. Segner, Dixon.
Livingston	E. F. Law, Fairbury	H. L. Parkhill, Pontiac.
Logan	F. M. Hagans, Lincoln	C. F. Becker, Lincoln.
McDonough	Henry Hermett, Macomb	Elizabeth R. Miner, Macomb.
McHenry	H. W. Sandeen, Woodstock	J. G. Maxon, Harvard.
McLean	J. C. McNutt, Bloomington	Ralph P. Peairs, Normal.
Macon	D. D. Smith, Decatur	D. A. Pence, Decatur.
Macoupin	G. E. Hill, Girard	T. D. Doan, Palmyra.
Madison	J. E. Walton, Altona	D. M. Roberts, Alton.
Marion	A. P. Heller, Centralia	F. A. Phillips, Centralia.
Mason	W. A. Steele, Havana	W. H. Schuette, Mason City.
Massac	G. F. Cummins, Metropolis	M. H. Trovillion, Metropolis.
Menard	Irving Newcomer, Petersburg	R. F. Valentine, Tallula.
Mercer	Walter Miles, Viola	V. A. McClanahan, Aledo.
Monroe	E. T. Lark, Columbia	R. G. Empson, Valmeyer.
Montgomery	H. C. Turney, Coffeen	H. F. Bennett, Litchfield.
Morgan	A. L. Adams, Jacksonville	Fred Engelback, Jacksonville.
Moultrie	W. K. Hoover, Lovington	W. B. Kilton, Sullivan.
Ogle	R. O. Brown, Mt. Morris	A. R. Bogue, Rochelle.
Peoria City Medical Society	A. P. Kannapel, Peoria	C. W. Margaret, Peoria.

ILLINOIS PERIODIC PHYSICAL EXAMINATION RECORD\*

Case No.....

usual.....

Name ..... Age.....Height ..... Weight.....present.....

normal.....

Temp. (3 min.).....Pulse Rate { Seated (before exercise) .....  
 { Standing (before exercise) .....  
 { 60 sec. after exercise (sufficient to increase pulse to 110).....

B1. Pres.: Sitting { Sys.....  
 { Dias..... Lying { Sys.....  
 { Dias.....

Hearing { R.....  
 { L..... Vision { R.....  
 { L.....

Urine: Color..... Reaction.....Sp. Gr. .... Alb..... Sugar.....

Microscopic.....

1. (Standing)

- (1) Posture: erect.....stooped.....Lateral curvature .....
- (2) Superficial glands .....cervical.....axillary .....inguinal..... epitrochlear.....
- (3) Abdomen: flat .....Pendulus .....
- (4) Arms .....defects .....
- (5) Legs .....big veins..... scars.....
- (6) Feet: flat .....painful .....deformed.....
- (7) Skin .....Hands .....
- (8) Nutrition .....Hernial rings .....
- (9) Chest: expir. ....inspir.....Romberg .....

2. (Sitting)

- (1) Scalp .....Patellar reflexes .....
- (2) Eye reflexes .....to light ..... to distance .....
- (3) Nose: conformation.....air passages free .....obstructed .....discharge.....
- (4) Teeth: caries.....devitalized.....crowned .....
- (5) Gums: healthy.....retracted.....inflamed .....
- (6) Tongue: clean..... coated..... moist .....dry .....
- (7) Pharynx: ulcers ..... scars .....tonsils .....
- (8) Ears: conformation .....discharge .....
- (9) Heart: locate apex (measure from mid-line—state interspaces).....character of sounds.....
- (10) Lungs: abnormal findings.....

3. (Lying)

- (1) Abdomen: palpation .....tender..... tumors .....
- (2) Liver: percussion .....tender..... palpable .....
- (3) Spleen: percussion .....tender..... palpable .....
- (4) Kidneys: palpable .....tender.....
- (5) Rectum: inspection .....digital findings .....
- (6) Male Genitalia .....
- (7) Female Genitalia and pelvis.....

4. Summary: defects of function and structure and errors of habit.....

5. Advice given to the patient.....

\*Prepared by the Illinois State Medical Society.

Copies of this physical examination record may be secured from Doctor Harold M. Camp at Monmouth, Illinois, or the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

## HISTORY

(This side to be filled in by the person to be examined)

1. Name ..... Country of birth.....Date of birth.....
2. Address .....Race .....
3. Single, married, widowed, divorced.....
4. Occupation .....
5. How often have you changed your work?.....Why? .....
6. Is your work dangerous or unhealthy?.....
7. Is it indoors or out?.....
8. Is it light where you work?.....Dark?.....Dusty? ....Smelly?....Noisy?....Crowded?....
9. At work are you usually seated, standing, or walking? .....
10. How many hours a day do you work?.....How many days a week?.....
11. Have you a room and bed to yourself?.....With window open?.....
12. What are your hours of sleep?.....Is your sleep restful?.....By what is it disturbed? .....
13. Where do you eat your meals?.....
14. How much time do you take for each meal?.....
15. Of what foods are you especially fond?.....
16. How much do you drink daily of:
 

Water .....	Tea .....	Soft drinks .....
Milk .....	Coffee.....	Alcoholic drinks .....
17. Do you eat candy?.....
18. Do you have a bowel movement daily without the use of drugs?.....What laxative do you use?.....How often? .....Do you have pain or bleeding with bowel movement?.....How often? .....
19. Have your menstrual periods been regular?.....
20. Have they interfered with your usual occupations? .....
21. Have pregnancies and confinements been free from accidents? .....
22. How often do you bathe?.....
23. What regular exercises do you take in addition to your work?.....
24. Do you share in church, social, political, club, or trade associations?.....
25. What are your pleasures or recreations?.....
26. Have you had any of the following diseases and at what ages?
 

Tuberculosis .....	Scarlet fever .....	Tonsilitis .....
Malaria .....	Diphtheria .....	Frequent colds.....
Rheumatism .....	Typhoid fever .....	Syphilis or gonorrhea.....
27. Do you have dyspepsia?.....
28. Do you have headaches?.....
29. Are you short of breath on going up stairs?.....
30. Do you catch cold easily and often?.....
31. Are you subject to sore throats?.....
32. Have you been vaccinated against small pox, typhoid fever, diphtheria?.....When? .....
33. Have you had any accidents, broken bones or surgical operations? .....
34. How often do you consult you dentist?.....
35. Are you as well at present as formerly?.....If not, why?.....
36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....



**NO  
TOXIC  
EFFECTS**

*In the application of Hexamethylenamine in cases requiring as much as 20 grains three or four times a day*

**Non-Toxic ♦♦ Non-Alcoholic**

# UROLITHIA

serves as an agent for liberating formaldehyde and avoids the highly irritating qualities of free formaldehyde.



UROLITHIA is a scientific compounded formula of Methenamine in combination with Lithium and Sodium Benzoate in a Standardized fluid of couch grass (Triticum) and corn silk (Zea.)

*Clinical sample and literature free on request.*

COBBE PHARMACEUTICAL CO.,  
221 N. LINCOLN ST., CHICAGO, ILL.

Send free Urolithia sample and literature.

Dr. ....

.....

.....

IM2-34

**COBBE**

PHARMACEUTICAL COMPANY  
221 North Lincoln St. Chicago, Ill.

## PROFESSIONAL PROTECTION

**SINCE 1899  
SPECIALIZED  
SERVICE**

### Right Thru the Depression

1929—Surplus to Contract Holders \$1,131,173

1933—Surplus to Contract Holders \$1,209,036

*"The Little Giant"*

**THE**

**MEDICAL PROTECTIVE COMPANY**

OF FORT WAYNE, INDIANA

**WHEATON, ILLINOIS**

# High-Citrus Diet Reduces Gingivitis 83%, Caries 57%

## Results of 3½-Year Clinical Study of 440 Children

	FIRST YEAR Standard Diet	SECOND YEAR Added Citrus Fruit	THIRD YEAR Standard Diet
GINGIVITIS, Incidence	74.9%	12.4%	60.3%
DENTAL CARIES, Incidence	78.0%	33.7%	83.4%

### Results of Conclusive Clinical Nutritional Study Announced to the Professions in Exhaustive Monograph—with Natural-Color Photographs

**G**INGIVITIS was reduced more than four-fifths and dental caries more than one-half by adding a pint of fresh orange juice and the juice of a lemon to the individual diets of a large group of children who had been receiving a diet at least as good as that of the average American child.

These results were announced at the conclusion of a 3½-year study of 440 children at Mooseheart by The Sprague Memorial Institute, University of Chicago. They are published in "Diet and Dental Health" (University of Chicago Press).

#### Diets Described

The standard diet (see table) included a quart of milk, 1½ ounces of butter, a pound of vegetables, ½ pound of fruit and nearly one egg a day.

During the second period this daily diet was supplemented with two full-sized (8 oz.) glasses of fresh orange juice with the juice of half a lemon added.

During the third period the amount of fresh orange juice was reduced to three ounces a day. Dental disorders tended to reappear in their former intensity. *Three ounces did not suffice.*

Preliminary dental studies indicated the value of citrus fruits in the adequate diet. So the California Fruit Growers Exchange agreed to furnish fruit and

additional funds to guarantee completion of the work on an amplified scale. The Exchange also supplied color plates for the monograph, permitting the Special Advance (\$1) Edition to contain the identical illustrations of the regular \$4 edition.

#### Physicians: Send For Book

Physicians and Nutritionists, as well as Dentists, will find much of the clinical material in "Diet and Dental Health" directed to them. Tables give precise data, such as serum calcium, oral bacteriology, etc., on the children. This permits correlations for various purposes. The Mooseheart research is easily the most comprehensive clinical nutritional study of children on record. The offer of monographs at the advance sale price of one dollar expires March 1, 1934. An early return of the coupon and remittance is urged.

Copr., 1934. California Fruit Growers Exchange

## FINAL OFFER AT \$1

PRICE ADVANCES TO \$4 ON MARCH 1st

300 pages, including  
48 pages of illustration  
chiefly in actual color.  
Special pre-publication  
offer . . . \$1.00 per copy.



UNIVERSITY OF CHICAGO PRESS, Div. 1802-M  
5750 Ellis Avenue, Chicago, Illinois

Ship immediately—copies "Diet and Dental Health,"  
at the pre-publication price of ONE DOLLAR per copy.  
I enclose ☐ money order, ☐ check, ☐ currency.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



**California Fruit Growers Exchange**  
**Sunkist Oranges • Lemons • Grapefruit**



## The Cincinnati Sanitarium

Established More Than Fifty  
Years Ago

### A PRIVATE HOSPITAL FOR NERVOUS AND MENTAL DISEASES

Secluded but easily accessible. Constant medical supervision. Registered charge nurses. Complete laboratory and hydrotherapy. Dental department. Occupational Therapy. Ample classification facilities.  
Charles Kiely, M. D., Emerson A. North, M. D., Visiting Consultants.  
D. A. Johnston, M. D., Resident Medical Director

#### REST COTTAGE

This psychoneurotic unit is a complete and separate hospital, elaborate in furnishings and fixtures.

For terms apply to  
The Cincinnati Sanitarium  
College Hill, Cincinnati, Ohio

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
**CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL**  
231 West Washington Street, Chicago, Illinois

### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six  
X-ray, Basal Metabolism, Electrocardiography  
and Physical Therapy

# A R I Z O N A

## Every Day an Outdoor Day

84%  
Sunshine



Reduced round-trip rates  
now in effect on the  
Rock Island-Southern  
Pacific and Santa Fe Lines.



Daily trans-continental  
plane service via Fair  
Weather Route of the  
American Airways, Inc.

Climatic conditions in Phoenix, and the surrounding towns of Tempe, Mesa, Chandler, Wickenburg, Glendale and Buckeye, are ideal. Here, a brilliant sun shines 84% of all the possible daylight hours; winters are moderate; snow, sleet and slush are unknown in this 1100 foot altitude; the air is clean, dry and invigorating.

This semi-tropical area offers unlimited opportunities to rest quietly under the palms in the patios, as well as many recreational diversions. We believe you will agree that your patients have an excellent chance to regain their health in this dry, warm, sunny "Land of Out-of-doors."

### Climatological Data

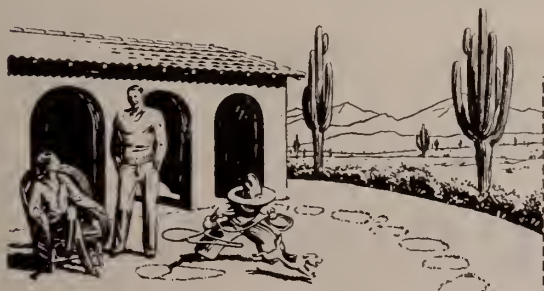
U. S. Weather Bureau Statistics  
Covering a period of 36 years

Mean Yearly Average

Temperature	69.8°
Rainfall	7.81 inches
Relative Humidity	37.33%
Sunshine	84%
Altitude	1,100 feet

▼ ▼ ▼

Send us the schedule of those persons you are sending to Phoenix. We will be glad to meet their train or plane and help them locate in comfortable accommodations to fit their budget.



## PHOENIX

CHAMBER OF COMMERCE

119-D La Ciudad Del Sol

(The City of the Sun)

Please send me free descriptive literature and further information about the climate.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

### EARLY TRAINING

Coach Chadd: "You're great! The way you hammer the line, dodge, tackle your man, and worm through your opponents is simply marvelous."

Bob Spurgeon: "I guess it all comes from my early spring training, sir. You see, my mother used to take me shopping with her on bargain days."

### MIGHT TRY BLINDFOLDING

"Last week a grain of sand got into my wife's eye and she had to go to a doctor. It cost me three dollars."

"That's nothing. Last week a fur coat got in my wife's eye and it cost me three hundred."—*Jugend (Munich)*.



---

---

# TONSILLITIS • LARYNGITIS PHARYNGITIS

---

---

---

**A**CUTE affections of the pharynx and larynx are responsive to treatment with Antiphlogistine.

When applied from ear to ear as hot as the patient can bear with comfort, its anodyne and analgesic actions serve to relieve the congestion and local discomfort.

It is a most satisfactory therapeutic measure for the treatment of those conditions where the application and maintenance of prolonged moist heat is indicated.

*Sample and literature on request*

---

---

---

## ANTIPHLOGISTINE

THE DENVER CHEMICAL MFG. COMPANY

163 Varick Street, New York, N.Y.

---

---

---

## Kenilworth Sanitarium

KENILWORTH, ILLINOIS

Northern Suburb of Chicago

Founded by Sanger Brown, M. D. 1905

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M.D., CHRISTY BROWN  
Assistant Physician Business Manager  
PETER BASOE, M.D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

For Mild Mental and Nervous Diseases

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

Licensed by the Illinois State Department of Public Welfare.

Member of the Central Neuropsychiatric Hospital Association.

Rockford, Illinois

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director  
FLOYD W. APLIN, M. D.

Waukesha, Wisconsin

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

For the Treatment of Nervous and Mental Disorders

DR. FRANK P. NORBURY, Medical Director  
DR. ALBERT H. DOLLEAR, Superintendent  
DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK }

Address  
Communications

THE NORBURY SANATORIUM, Jacksonville, Illinois



## Vitamin D

which, unlike vitamin A, occurs only in small quantities in ordinary food materials, is found in great profusion in Norwegian medicinal cod liver oil.

The latest scientific investigations made by Professor Poulsson at the Vitamin Institute of Oslo, show that the vitamin D content of Norwegian medicinal cod liver oil is up to a hundred per cent. higher than that of any other brand of cod liver oil.

Norwegian medicinal cod liver oil is the more indispensable as it also contains a substantial amount of iodine and vitamin A.

Patients show a marked preference for Norwegian medicinal cod liver oil which has the unique advantage of being practically devoid of taste and smell.

**Norwegian Medicinal Cod Liver Oil**  
world famous for its high quality.

Printed matter will be sent on application to: Reklamefondet  
for norsk medicintran, Post box 226, Bergen, Norway.

FABRITIUS, OSLO



# When the Heart Needs Attention

Use a digitalis compound of tested strength, known dependability, and free from undesirable and inactive substances.

DIGIFOLINE, "CIBA" answers all of these requirements; it is a uniform, standardized preparation of the highest purity and efficacy.

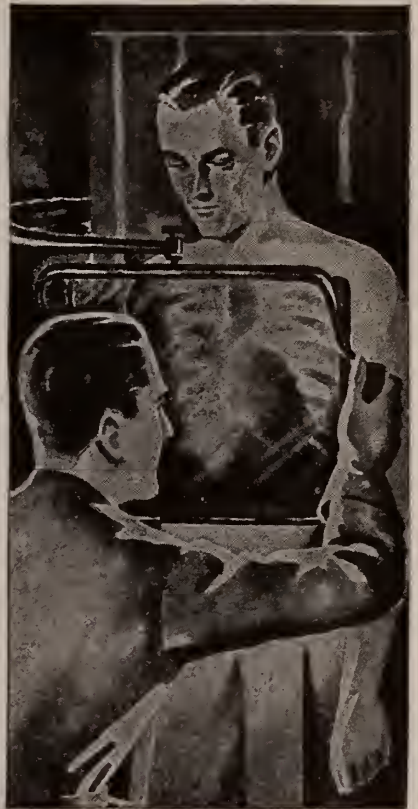
DIGIFOLINE, "CIBA" is promptly absorbed, whether given orally, rectally, intramuscularly, intravenously, or subcutaneously.



**DIGIFOLINE, "Ciba"**  
LIQUID                      TABLETS                      AMPULES

## SPECIAL ATTENTION

Digifoline tablets are now issued in bottles of 50's instead of 25's. Double the amount of medication at no increase in cost to your patient!



**CIBA COMPANY, INC., NEW YORK, N. Y.**

CLIMATOLOGICAL DATA (Compiled from U.S. Weather Bureau Report)												
TEMPERATURE (Mean monthly— 40-year average)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	49.7	52.2	57.5	54.3	71.4	77.4	82.7	69.7	79.2	68.1	57.5	49.8
RAINFALL (in inches— 40-year average)	8	9.6	81	32	14	23	24	24.6	10	6	7.6	10.9
												11.57
HUMIDITY Monthly (40-year average)	A.M.	61	55.6	44.8	40.4	28.4	29.3	54.3	57.3	47.1	46.8	57.1
	P.M.	35.3	27.7	22.4	22.6	15.9	17.7	36.7	35.7	29.0	26.5	41.1
												48.1
												29.9

# Sunny TUCSON

*offers every encouragement in cases that  
are aided by... a warm dry climate  
2400 foot elevation...freedom from fog  
...low average wind velocity*



**T**UCSON'S climate is truly ideal...offering 336 sunny days a year, with minimum wind, rainfall or fog. Snow and cold are practically unknown. Moreover, Tucson has some of the finest sanatoria in the West. Through long experience, care has become exceptionally good,



and rates scale down to very reasonable lows. If you wish to investigate Tucson's advantages in convalescence — mail the coupon below for a free descriptive booklet... or any special information you may desire will be supplied by personal letter immediately upon your request.

**TUCSON**  
Sunshine-Climate Club  
**ARIZONA**

1333-H Old Pueblo Bldg., Tucson, Arizona  
Please send me free literature for physicians.

Name \_\_\_\_\_  
Street \_\_\_\_\_ City \_\_\_\_\_



# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN



Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

**Fireproof** building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

**ARTHUR W. ROGERS, M.D.,** Physician in Charge  
**JAMES C. HASSALL, M.D.,** Medical Supt.    **OWEN C. CLARK, M.D.,** Asst. Physician

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



**Dr. George W. Michell, Superintendent**  
**Dr. Helen Coyle, Medical Director**  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan  
**WINNETKA, ILLINOIS**  
16 Miles North of Chicago

**Thoroughly Equipped Sanitarium**

**Hydrotherapy - Electrotherapy - Massage - Dietetics**

**Occupational Therapy Department**

Special facilities are offered for the care and treatment of nervous and chronic diseases.

*Ideal for Convalescents*

Write for Booklet or Phone **WINNETKA 211**  
**Wm. R. Whitaker**                      **Wm. G. Stearns, M.D.**  
Manager                                      Medical Director



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

ILLINOIS MEDICAL JOURNAL  
MAY 12 1934  
LIBRARY

Vol. LXV, NO. 3

OAK PARK, ILL., MARCH, 1934

\$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for Titles) ..... 185

### ORIGINAL ARTICLES

Acute Intestinal Obstruction of Jejunum and Ileum. *Wm. R. Cubbins, M. D., Chicago, and Amos Fey, M. D., Galesburg, Ill.* ..... 203  
School Health and Hygiene. *Francis L. Bacon, Evanston, Ill.* ..... 213  
Carcinoma of the Jejunum. *Ralph A. Kordenat, M. D., Chicago* ..... 218  
Further Observations on Allergy. *John Peters, M. D., Maywood, Ill., and Maurice J. Hoffman, M. D., Chicago* ..... 221  
What to Tell Lay Audience re Prenatal Care. *Esther Smucker, M. D., Tiskilwa, Ill.* ..... 223

Endocrines in Ophthalmology. *Louis Bothman, M. D., Chicago* ..... 226  
Chronic Pyuria in Childhood. *John A. Bigler, M. D., Highland Park, Ill.* ..... 233  
Treatment of Pulmonary Abscess. *Carl A. Hedblom, M. D., Chicago* ..... 238  
How Public Health Nurse Works with Medical Profession. *Miss Louise Nicol, Peoria, Ill.* ..... 244  
Psychology and Mental Hygiene of Personality. *Frederick L. Patry, M. D., Albany, N. Y.* ..... 246  
Tuberculosis in Childhood. *Eugene T. McEnery, M. D., Chicago* ..... 252  
Chronic Infections of the Prostate Gland. *Clarence H. Boswell, M. D., Rockford, Ill.* ..... 254

(Continued on Page 8)

Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918.

## MILWAUKEE SANITARIUM

### RESIDENT STAFF

ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.

MERLE Q. HOWARD, M.D.  
CARROLL W. OSGOOD

## WAUWATOSA, WISCONSIN

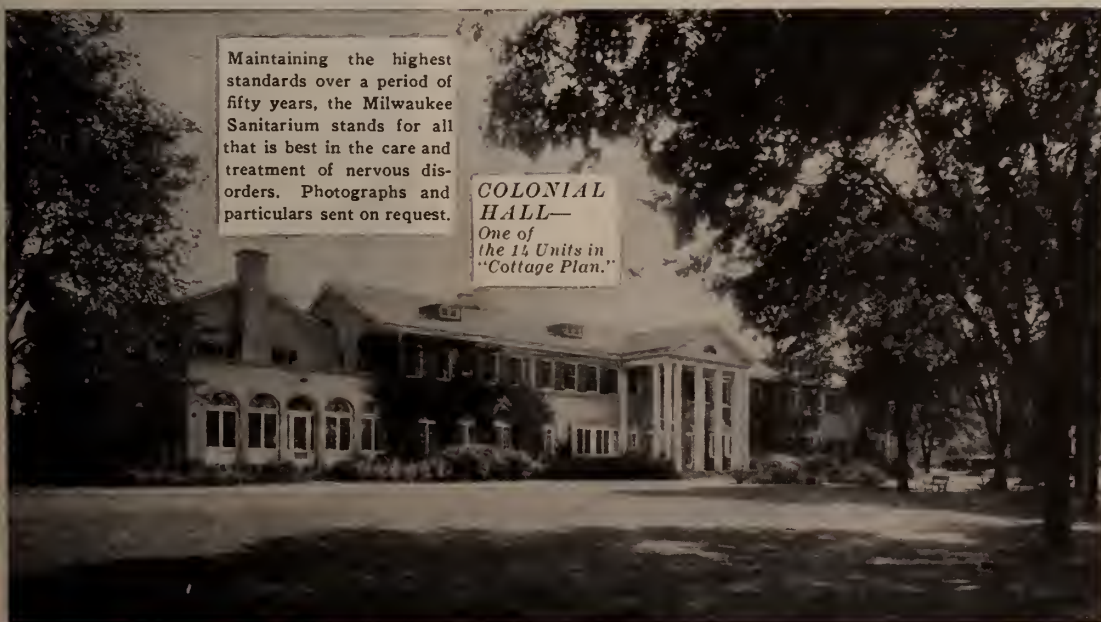
(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

### ATTENDING STAFF

H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

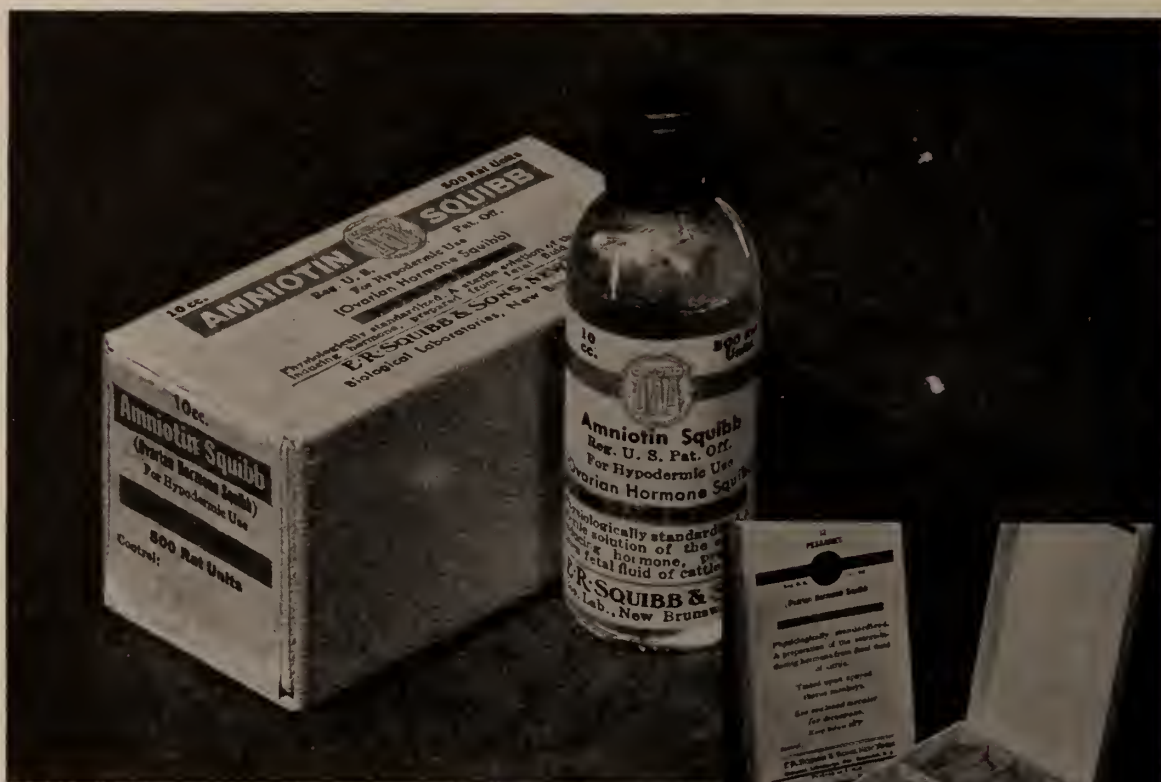
Maintaining the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

COLONIAL HALL—  
One of the 15 Units in "Cottage Plan."



"The Advertising Pages have a Service Value for the READER that no truly Progressive Physician can afford to overlook."





# AMNIOTIN SQUIBB

the estrus inducing follicular hormone

## INDICATED:

1. To relieve the symptoms of the menopause, natural and surgical.
2. To relieve the symptoms of functional dysmenorrhea (painful menstruation).
3. For the treatment of gonorrheal vaginitis.

Amniotin Squibb is highly potent and stable—characteristics which make it a product of choice in the treatment of endocrine disorders.

For further information address the Professional Service Department, 745 Fifth Avenue, New York.

## Marketed in these three forms:

*In Solution for hypodermic use.* 10-cc. vials—50 rat units per cc.

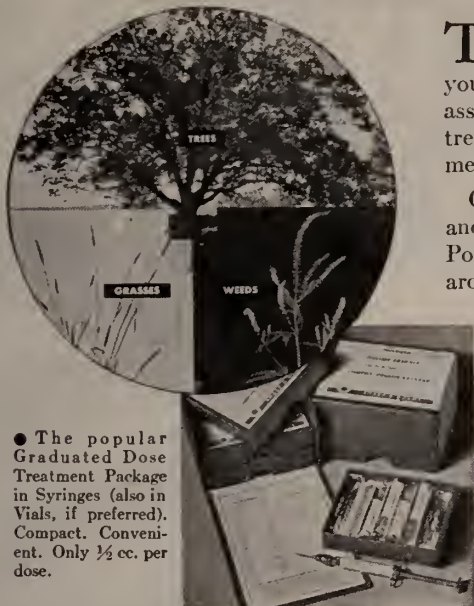
*In Pessaries for vaginal administration.* Boxes of 6 and 12 pessaries, 75 rat units per pessary.

*In Dropper Bottles for Oral Administration.* 5-cc. bottles containing 2000 units with dropper that delivers approximately 10 units per drop.

**E·R·SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.



# Mulford Pollen Extracts from Hay Fever Plants *common* in Your Community



● The popular Graduated Dose Treatment Package in Syringes (also in Vials, if preferred). Compact. Convenient. Only  $\frac{1}{2}$  cc. per dose.

**T**HE POLLENS DRIED and Pollen Extracts prepared by the Mulford Biological Laboratories offer you a "Complete Hay Fever Service"—an extensive assortment of pollens and packages for diagnosis and treatment which thoroughly meet your own requirements in your own community.

Only specific pollens—accurately identified, pure, and botanically true to label—are used in Mulford Pollen Extracts. They are freshly prepared and standardized, and will retain their full strength through the dating period. Clinical tests have established their potency.

To further meet your requirements, our Medical Department will assist you in any problem of pollen allergy which confronts you. Our booklet, "Hay Fever Therapy," mailed on request.

MULFORD BIOLOGICAL LABORATORIES

## Sharp & Dohme

PHILADELPHIA

BALTIMORE

# INCRIETONIE

## *A Liquid Endocrine Tonic*



*Bottles of  
6 ounces*

with a positive pharmacologic action on the energy liberating mechanism of the body.

Increased energy from increased utilization of the foodstuffs.

## G. W. CARNRICK CO.

20 MT. PLEASANT AVE.  
NEWARK, N. J.



# ANATOMICALLY CORRECT



THE UNIQUE torpedo shape of Wyanoids is anatomically correct. It conforms to the contour of the canal, is easily inserted, readily retained.

The torpedo shape of Wyanoids allows the insertion of the pointed end first, so that once the widest diameter has passed the sphincter it is spontaneously pressed inward where it is retained, melted and the therapeutic ingredients liberated.

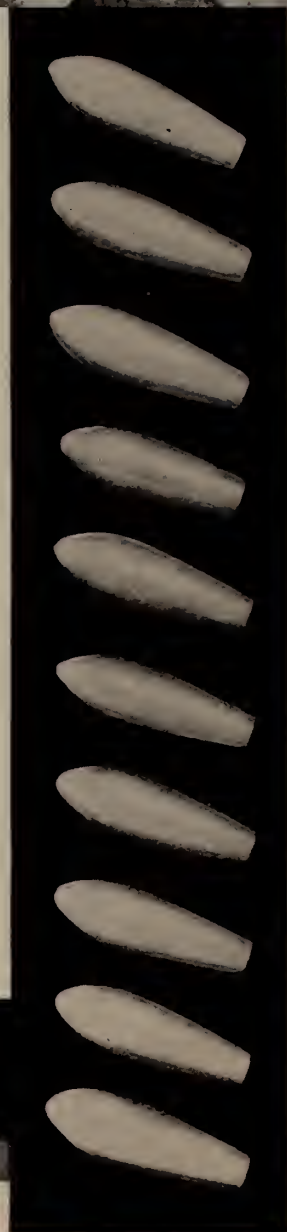
The formula of Wyanoids is analgesic, decongestive, astringent.

Wyanoids quickly allay pain, reduce inflammation, restrict bleeding.

JOHN WYETH & BROTHER, Inc.

Philadelphia, Pa. and Walkerville, Ont.

**WYANOIDS**  
(Wyeth's Hemorrhoidal Suppositories)







## THE STREAM-LINING OF VITAMIN THERAPY

**S**TREAM-LINING is, after all, nothing more than cutting down of resistance.

And that is exactly what Parke-Davis Haliver Oil products have done in the field of vitamin therapy.

You no longer have to cajole your patients into taking teaspoonfuls of cod-liver oil. For with Haliver Oil you obtain full therapeutic

effects by prescribing drops —not teaspoonfuls.

Before this pleasant dosage, your patients' objections vanish. They co-operate readily and, what is even more important to you, *regularly*. And the mothers of babies and young children are particularly appreciative of escaping the old "you-take-your-medicine-or-else" scrimmages.

Parke-Davis Haliver Oil (either Plain or with Vioosterol-250 D, in bottles or in capsule form) is available at practically all drug stores in the United States and Canada.

**HALIVER OIL WITH VIOSTEROL-250 D**  
Containing 32,000 vitamin A units (U. S. P. X.)  
and 3,333 vitamin D units (Steenbock) per gram.

**HALIVER OIL PLAIN**  
32,000 vitamin A units (U. S. P. X.) and 200  
vitamin D units (Steenbock) per gram.

*For prompt relief of distressing symptoms  
and the treatment of urinary infections  
Cystitis . Pyelitis . Urethritis . Prostatitis*

THE pharmacologic and clinical investigations conducted with Pyridium, and reported in medical journals, have been substantiated in communications received from thousands of general practitioners. They are practically uniform in their expression that Pyridium, orally administered, yields prompt clinical results.

*Pyridium*

PHENYLAZO - ALPHA -  
ALPHA - DIAMINO - PYRIDINE  
MONO - HYDROCHLORIDE



*Send for a sample • Convince yourself*

**MERCK & CO. INC.**

*Manufacturing Chemists*

**RAHWAY, N. J.**

# Lowering HIGH Tension



✦ *IN* addition to dietary regulations, rest and avoidance of excitement, much can be accomplished by Theominal in the treatment of hypertension. It helps to check the baneful tendency to physical and emotional strain and through its vasodilator action causes a gradual but not dramatic fall of blood pressure. . . . Thus, the hypertensive subject obtains relief from the most troublesome symptoms—headaches, vertigo, insomnia, dyspnea and pain attributable to vascular spasm in various parts of the body.

**OTHER INDICATIONS:** In *angina pectoris* Theominal has been found to prevent the attacks or to lessen their frequency and severity. It has also proved of value in the *circulatory disturbances of the menopause*.

*Dose:* One tablet, two or three times daily. *How Supplied:* Bottles of 25 and 100 tablets.

## THEOMINAL

Reg. U. S. Pat. Off. & Canada



**WINTHROP CHEMICAL COMPANY, INC., NEW YORK, N.Y.**

*Laboratories and Factory:* RENSSELAER, N. Y.



## THREE FACTORS are essential in BLOOD REGENERATION:

1. Formation of erythrocytes, stimulated by liver extract.
2. Formation of hemoglobin, stimulated by iron in an easily assimilable form.
3. Formation of the organic part of the hemoglobin molecule, facilitated by supplying the closely related animal hemoglobin.

The three principles are combined in

## HEMO-S

which also contains that fraction of liver, rich in copper, which is active in

## SECONDARY ANEMIA

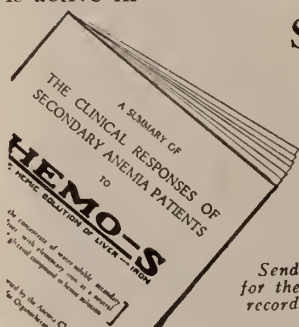
Hemo-S proved to be of the highest efficacy in most types of Secondary Anemia.

Write for literature to

## CHAPPEL BROS. INC.

Laboratories

Rockford, Illinois



Send  
for these  
records

### CONTENTS—Continued

Ocular Manifestations in Tryparsamide Treatment of Syphilis. <i>Leo L. Mayer, M. D., and R. Denton Smith, M. D., Chicago.</i>	258
Radiotherapy and Surgery in Treatment of Malignancy. <i>H. D. Jonkin, M. D., Paris, Ill.</i>	264
Analytical Study of Squint Surgery. <i>M. L. Folk, M. D., Chicago</i>	268
Misconceptions Concerning Preventable Disease. <i>L. N. Judah, M. D., Urbana, Ill.</i>	273

### EDITORIALS

Bureaucracy a Breakfast Casuerie.	185
Federal Employees Compensation Act.	186
Millbank Memorial Fund.	187
Federal Civil Works Orders.	188
1934 Annual Meeting.	190
Medical Economics.	191
Can Individualism Survive?	192
Committees for Springfield Meeting.	193
Doctors Desiring to Present Papers.	194
Further Observations on Preparing Copy.	194
Veterans' Dinner.	195
Make Hotel Reservations Early.	195
Valley Camp Coal Company.	196

### CORRESPONDENCE

Frozen Credits.	197
Examinations for Amebiasis. <i>Frank J. Jirka.</i>	197
Back Numbers Wanted.	198
Data on Cretinism.	198
American Congress of Physical Therapy.	198
Educational Committee, February.	199
Jewish Women's Organizations.	200
Woman's Auxiliary.	200

### SOCIETY PROCEEDINGS

Cook County Chicago Medical Society.	277
Ogle County.	277
Marriages.	278
Personals.	278
News Notes.	279
Deaths.	280

## SEVEN YEAR'S USE

has demonstrated the  
value of

The Surgical Solution

of

## MERCUROCHROME, H.W. & D.

in

## Preoperative Skin Disinfection

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

Literature on request

Hynson, Westcott & Dunning, Inc.  
BALTIMORE, MARYLAND

# for sick as well as normal babies

## Dextri-Maltose, Carbohydrate of Choice

"As to the kind of extra carbohydrate to be added, whether lactose or maltose, I believe dextri-maltose to be better in general in cases of fat indigestion, infantile atrophy."—C. H. Dunn: *The Hygienic and Medical Treatment of Children*, Southworth Co., Tray, New York, 1917, V. 1, p. 418.

In discussing the treatment of decomposition, Feer says: "The period of repair may be shortened by giving suitable additional food; the best, probably, being buttermilk to which carefully regulated proportions of dextrin and maltose preparations or malt soup are added."—E. Feer: *Text-Book of Pediatrics*, J. B. Lippincott Co., Phila., 1922, p. 284.

In the treatment of infantile atrophy, Fischer recommends the following: "The carbohydrate should be increased by gradual addition of dextri-maltose.

"Malt soup or dextrimaltose (Mead's) should be added in teaspoonful or more doses to each feeding until the point of carbohydrate tolerance is reached."—L. Fischer: *Diseases of Infancy and Childhood*, F. A. Davis Co., Phila., 1925, V. 1, p. 285.

Concerning the treatment in the case of a premature infant, Fischer states: "Dried milk with water was given, which later was changed to whole milk, 14 ounces; water, seven ounces, and dextri-maltose No. 1, one and one-half ounces. Seven feedings of three ounces each every three hours was given. The above feeding was retained. The infant gained eight ounces at the end of the first week."—L. Fischer: *Clinical notes in a series of premature infants*, *Arch. Pediat.* 44:227-231, April, 1927.

Grulee, in discussing the treatment of decomposition, says: "As a rule it is best to start with 2 to 2½ or 3 ounces of albumin milk to the pound weight in 24 hours; the sugar to be added is in the form of a maltose-dextrin mixture. One should never delay too long in adding this."—C. G. Grulee: *Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 265.

Referring to the hypotrophic infant, Herrman writes: "In mild cases, the addition of dextrimaltose instead of cane or milk sugar may be sufficient to obtain a gain in weight."—C. Herrman: *The treatment of nutritional disorders in artificially-fed infants*, *New York M. J.* 114:158-160, August, 1921.

In discussing artificial feeding in athresia, Hess states: "The carbohydrates are usually added in a slowly fermentable form, such as the maltose and dextrin compounds, which are usually started by the addition of four grams per kilogram (1 15 ounce per pound) and increased until eight grams or more per kilogram (½ ounce per pound) of body weight are added."—J. H. Hess: *Feeding and the Nutritional Disorders in Infancy and Childhood*, F. A. Davis Co., Phila., 1928, p. 278.

Concerning the treatment of marasmus, Hill says: "When the stools have become smooth and saive-like, carbohydrate, in the form of dextrimaltose, may be gradually added up to the limit of tolerance."—L. W. Hill: *Practical Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 281.

"A spasmodic baby on bottle feeding should receive a limited amount of milk—a pint, or at the most 24 ounces in the 24 hours—to which cereal gruel and some form of sugar is added, preferably one of the malt dextrin preparations; also the early addition of other foods than milk to the baby's diet."—M. Jampolis: *Infantile spasmodic*, *Interstate M. J.* 25:652, Sept., 1918; *abst. Arch. Pediat.* 35:691, Nov. 1918.

With reference to the treatment of diarrhea, Lust writes: "After several days, 2% to 3% of a maltose-dextrin preparation may be added (Dextri-Maltose). This is preferable to the easily fermentable lactose or cane sugar."—F. Lust: *The Treatment of Children's Diseases*, J. P. Lippincott Co., Phila., 1930, p. 145.

"The treatment of artificially fed children in the first of these groups consists in putting them on a low fat dietary, and giving them carbohydrate in the form of one of the less fermentable sugars—e.g., dextrimaltose."—L. G. Parsons: *Wasting disorders of early infancy*, *Lancet*, 1:687-694, April 5, 1924.

Pearson and Wyllie in discussing the treatment of milder cases of marasmus say: "Regulation of this disturbed organismal balance is obtained by the addition of carbohydrates, while fat and casein are reduced. For this purpose dextrimaltose and flour are better than the ordinary sugars, since they are more slowly absorbed and have greater efficacy in their powers of controlling the flora in the large intestine."—W. J. Pearson, and W. G. Wyllie: *Recent Advances in Diseases of Children*, P. Blakiston's Son & Co., Phila., 1930, p. 116.

Regarding the treatment of the marantic infant, Raue states: "After the intolerance to sugar has been overcome a carbohydrate, preferably Dextri-maltose, may be added."—C. S. Raue: *Diseases of Children*, Boericke & Tafel, Phila., 1922, p. 427.

In discussing the treatment of atrophy, Thurfild and Paterson, state: "If the baby continues to improve, the next step in the treatment is to add to the milk one of the less fermentable carbohydrates, such as dextrimaltose . . ."—H. Thurfild and D. Paterson: *Diseases of Children*, William Wood & Co., 1929, p. 105.

"I also find dextri-maltose an excellent addition to albumin-milk when the first object of that food has been achieved and a gain in weight is desired. In this way I have succeeded in feeding albumin-milk fat beyond the period usually advised, with highly gratifying results."—F. L. Wachenheim: *Infant-Feeding; Its Principles and Practice*, Lea & Febiger, Phila., 1915, p. 158.

"Dextri-maltose has been substituted for lactose not infrequently, when the tolerance for the latter continues low."—J. H. West: *Low fat, high starch evaporated milk feeding for the marasmic baby*, *Arch. Pediat.* 48:189-193, March, 1931.

"Malt sugar is indicated when others fail to produce a sufficient gain, or when malassimilation of fat is evident."—O. H. Wilson: *The role of carbohydrates in infant feeding*, *Southern M. J.* 11:177, March, 1918; *abst. Arch. Pediat.* 35:447, July, 1918.

### SIGNIFICANCE OF THE MEAD POLICY

WHEN Dextri-Maltose was marketed in 1911, "without dosage directions on the package," Mead Johnson & Company pioneered the principle that infant feeding was a therapeutic problem. Up to that time far more babies were fed by grandmothers, neighbors, grocers, and commercial houses than by physicians. This Mead Policy was not readily accepted in the beginning, and it took many years of unceasing effort before the weight of the majority medical opinion finally led to mandatory action on the part of the Committee on Foods in 1932 whereby all makers of baby foods are now OBLIGED to omit dosage directions. The Mead Policy, however, does not stop here. It embraces other principles with which all physicians interested in the private practice of medicine are in agreement, such as (2) No descriptive circulars in packages, or in shipping cartons (for druggists to hand to patients). (3) We supply no display of Mead products for druggists' windows and counters. (4) We do not advertise Mead products to patients. (5) We give no handbills and send no letters to patients concerning Mead products. (6) We do not broadcast to the public. (7) We refer patients to physicians at every opportunity. (8) We devote a great deal of effort and resources to research and to activities that assist the private practice of medicine. When requesting samples of Dextri-Maltose, please enclose professional card to cooperate in preventing their reaching unauthorized persons.

MEAD JOHNSON & COMPANY, Evansville, Indiana, U.S.A.



"Immediate relief..."	"Immediate relief of all symptoms..."	"Very marked improvement..."	"Immediate relief of all symptoms..."	"Immediate relief of all symptoms..."	"No relief..."
"Constant relief..."	"Immediate and complete relief..."	"Complete relief..."	"Immediate relief, no pain..."	"Immediate complete relief..."	<b>VS.</b>
"Feels better, gains weight..."	"Complete relief..."	"... had complete relief..."	"Relieved after taking..."	"...conclusion indefinite..."	

[The above quotations from clinical report of 17 cases treated with VegeMucene]

# Immediate and sustained relief in 14 out of 17 cases of peptic ulcer



## VegeMucene that PALATABLE Vegetable Mucinoid

A pure vegetable product derived from the plant *Abelmoschus Esculentus* which provides a protective coating for inflamed surfaces. It is dehydrated by a special process that preserves the mucilaginous qualities and also makes the product pleasantly palatable.

A 1% aqueous suspension of VegeMucene has 3.1 times the viscosity of water. One gram absorbs 5.45 cc of 1/10-N Hydrochloric Acid.

Clinical results demonstrate that VegeMucene affords prompt and continued relief from pain and associated symptoms of peptic ulcer, gastro-intestinal inflammations, many cases of "irritable colon" and border-line cases of hyper-acidity. Its function as an antacid is emphasized by impressive clinical experience (indicated above by its absorption of Hydrochloric Acid). Because of this high absorptive quality, VegeMucene will be found effective in gastric conditions induced by acute alcoholism.

**T**HERE are many different types of ulcer and different degrees of severity in gastric inflammations and other irritations of the gastric mucosa. Obviously then, there can be no one standard procedure in treatment. And yet... results from the use of VegeMucene in private practice, as reported to us by many physicians in all parts of the country continue to maintain the surprisingly high percentage of satisfactory clinical results obtained by Drs. Meyer, Seidmon and Necheles of the Stomach Study Group of Michael Reese Hospital, Chicago, as recorded in their paper "The Treatment of Peptic Ulcer" originally published in the *Illinois Medical Journal*. (\*)

Witness the testimony, voluntarily submitted by many of America's eminent physicians. The excerpts herewith are from such letters received by us during recent months:

"I have used the product (VegeMucene) in 10 cases with very gratifying results. Your product gives quick and more lasting results than any of the ordinary alkalies.

"One case in particular after six years' routine treatment with... treatment at... (with no results) has received almost miraculous relief during the past two weeks with VegeMucene."

"From the taking of the first tablet of VegeMucene, the patient was markedly relieved of his pain and distress and now, after a month of its use, and guarded care in his diet, is very much improved in every way."

"I can sincerely state that to date I have found your preparation quite satisfactory inasmuch as it gives very early relief to the patient and continues to keep him free of symptoms. I have had only two cases out of fourteen with whom this preparation did not seem to be doing the work."

"The results to date on cases of duodenal ulcer have been very satisfactory using VegeMucene."


In addition to its efficacy and palatability, VegeMucene therapy possesses these practical economic advantages: Its use does not require the hospitalization of the patient. In most cases he may continue routine duties. Particularly important—it is quite economical, calling for a monthly expenditure of but \$5.50 for the average dosage.


To you, doctor, we wish to submit the product itself that it may present its evidence to you—in your own practice—with patients of your own selection—under conditions you yourself impose. May we send you a sample of VegeMucene together with covering literature?

\*A copy of the paper by Drs. Meyer, Seidmon, and Necheles will be included on request. A word from you will bring this material.

**BioVegetin Products, Inc.**  
500 North Dearborn, Chicago







*This dreadful  
spectre of*  
**RECURRENT  
ANGINAL  
ATTACKS**

When Aminophyllin (Searle) — theophylline ethylenediamine — is ORALLY administered in tablet form over a prolonged period, it exerts a powerful prophylactic action in cardiac lesions associated with pain \* \* \* \* In some instances the paroxysms may be altogether obviated; in others, the frequency and severity of such attacks as do occur are greatly lessened \* \* \* \* Aminophyllin (Searle) is strictly an American product, made in America from purely American-made ingredients. It is also available in two ampul forms for the intravenous or intramuscular administration indicated when relief from a paroxysm is imperative.

*Literature and samples on request.*

***J.D. Searle & Co.***

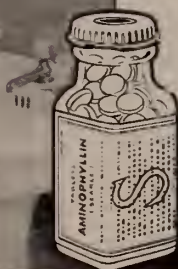
FINE PHARMACEUTICALS SINCE 1888

Kansas City

Chicago

Los Angeles

Spokane



***Aminophyllin (Searle)***

C O U N C I L   A C C E P T E D



...and costs no  
more than white  
adhesive plaster



## *It's Waterproof!*

• Drybak, the waterproof adhesive plaster, makes strap-pings that are more practical. Its glazed surface keeps clean. The edges of Drybak will not turn up after washing. When the plaster is removed there is practically no residue left on the skin. Drybak is suntan in color, and is less conspicuous than white plaster. Order from your dealer.

Drybak is supplied in cartridge spoons in all standard widths, in Band-Aid, 1" x 3", in Hospital Spools, 12" x 10 yds., assorted widths, and Hospital Rolls, 12" x 5 yds., uncut.

PROFESSIONAL SERVICE DEPT.

**Johnson & Johnson**  
NEW BRUNSWICK, N. J. CHICAGO, ILL.

# DRYBAK ADHESIVE PLASTER

*Definite dosage  
Ease of administration  
Sensible economy*



Each pill contains 0.1 gram (1½ grains) of physiologically tested digitalis leaves. The finished pills, too, are biologically assayed, thus giving re-assurance of their activity.

Each pill represents 15 minims of the U. S. P. tincture and permits of more accurate dosage than do liquids, as drops may vary in size.

These pills contain digitalis in its completeness and not any separated or extracted part of it, therefore present the entire therapy of this valuable drug.

*Physician's trial size package and literature sent free upon request.*

DAVIES, ROSE & CO., Ltd.

Pharmaceutical Manufacturers

BOSTON, MASS.



# COMPETENT MEDICAL AUTHORITIES *endorse* this effective drug

Acetanilid is effective. It relieves pain, especially of nerve origin, for which it is almost specific. It promotes rest by calming nervousness, yet even in large doses is not an intellectual depressant. There is no cerebral depression but the patient is placed in a position to rest calmly. It promptly relieves headache, and can frequently abort a cold. Its action is enhanced by the addition of caffeine and alkaline salts.

**MORE IMPORTANT YET:** Competent medical authorities endorse the safety of acetanilid. Careful recent tests on animals and patients confirm the fact that the use of acetanilid with and without caffeine, in average therapeutic doses, produces no ill effects. They bear out the opinion of Osborne and Fishbein\* that "Acetanilid received a bad name which has clung to it. It does not deserve it."

In this second of a series of announcements intended to acquaint the medical profession with recent work bearing on the safety and wide therapeutic value of acetanilid, the Emerson Drug Company takes pleasure in offering you a reprint of a most careful study: "A Study of the Physiological Effect of Acetanilid on Human Subjects," O. Lowy, L. J. Levinson, S. T. Helms, and literature on a series of animal tests (*Journal of Pharmacology & Experimental Therapeutics*, November, 1933).

Bromo-Seltzer is a preparation of known composition containing approximately 3 gr. acetanilid, 1 gr. caffeine with sodium bromide and sodium citrate per dose. It was used in the physiological study cited. A sample will be sent with the literature, if you request it only.

\**Handbook of Therapy*, Osborne and Fishbein, 8th Edition 1928, American Medical Association, Publisher.

EMERSON DRUG COMPANY, BALTIMORE, MD.  
Please send me reprints as specified.

.....  
.....M.D.  
.....St. & No.  
.....City & State

**EMERSON DRUG COMPANY**  
BALTIMORE, MD.





## CONSIDER THESE SOURCES



*from wholesome*

WHEAT and BARLEY—

*Maltose, Dextrins*

AND MORE

Wheat flour, wheat bran and malted barley are converted into maltose and dextrins, by *natural enzymatic action*, in making Mellin's Food. Cereal protein and mineral salts, present in the whole grain, are retained. Mellin's Food has 58.9% Maltose, 20.7% Dextrins, 10.3% Cereal Protein, and 3.9% Ash.

The tendency of Mellin's Food to promote normal bowel action is well known.

MELLIN'S FOOD COMPANY  
*Boston, Mass.*

LITERATURE AND SAMPLES OF MELLIN'S FOOD GLADLY SUPPLIED—TO PHYSICIANS

*Mellin's Food: Produced by an infusion of Wheat Flour, Wheat Bran and Malted Barley admixed with Potassium Bicarbonate—consisting essentially of Maltose, Dextrins, Proteins and Mineral Salts.*

## PROFESSIONAL PROTECTION

SINCE 1899  
SPECIALIZED  
SERVICE

"Some may wish you Peace and Ease  
A smoother path in the year ahead.  
We wish you Fiber the Valiant need  
To force your way through bitter blasts;  
We wish you the heart of the Fighting Breed  
To carry you on while the battle lasts."

"THE FIGHTING COMPANY"

THE

**MEDICAL PROTECTIVE COMPANY**

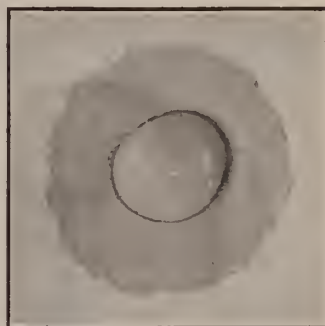
OF FORT WAYNE, INDIANA

**WHEATON, ILLINOIS**

NOW YOU SEE AGAROL



... NOW YOU SEE  
SOMETHING ELSE



THE RING around the drop tells the story. A drop of Agarol on blotting paper holds together firmly. Try this with a poor emulsion, and you will see that the mineral oil will be soon taken up by the blotting paper, forming a greasy ring around the drop. Agarol is as fine an emulsion of mineral oil and agar-agar with phenolphthalein as the modern art of pharmacy, aided by the skill of experience acquired in more than three-quarters of a century can produce. It never leaves an oily taste.

Finest, purest ingredients make Agarol palatable without artificial flavoring. It contains no sugar, no alcohol, no alkali.

For dependable efficacy Agarol has attained a reputation all its own, generously granted by those who have observed its good effects in the resultful treatment of constipation. \* \* Trial supply sent on request. \* \* Please use letterhead.

## AGAROL FOR CONSTIPATION

*Agarol is supplied in bottles containing 6 and 14 ounces.*

*The average dose is one tablespoonful.*

WILLIAM R. WARNER & CO., INC., 113 West 18th Street, New York City

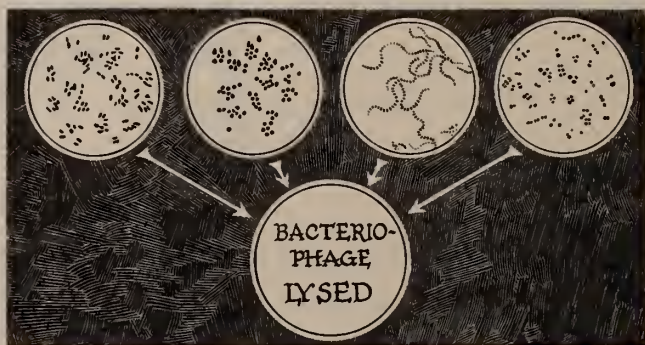




# ELI LILLY AND COMPANY

FOUNDED 1876

Makers of Medicinal Products



## *Bio-fels and Bio-Lysates, Lilly*

are improved, readily available bacterial antigens prepared under the closest scientific supervision and supplied in convenient form for local and general immunization in suitable infectious processes. Bio-Lysates are also intended for parenteral use.

*Write for literature*

PROMPT ATTENTION GIVEN TO PHYSICIANS' INQUIRIES

ADDRESS ELI LILLY AND COMPANY, INDIANAPOLIS, INDIANA, U. S. A.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., March, 1934

No. 3

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1933-1934

PRESIDENT.....PHILIP H. KREUSCHER, Chicago  
PRESIDENT-ELECT.....CHARLES D. CENTER, Quincy  
1ST VICE-PRESIDENT.....C. G. FARNUM, Peoria  
2ND VICE-PRESIDENT.....H. V. GOULD, Chicago  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1934  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1934  
S. E. Munson, 5th District, Springfield .....1934  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1934  
C. E. Wilkinson, 8th District, Danville .....1935  
Andy Hall, 9th District, Mt. Vernon .....1936  
J. S. Templeton, 10th District, Pinckneyville ...1936  
Edw. S. Hamilton, 11th District, Kankakee .....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, *Secretary*.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN MCARTHUR, *Secretary*.....185 N. Wahash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, *Chairman*....4034 W. Madison St., Chicago  
HAROLD M. CAMP, *Secretary*.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, *Secretary*.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers. State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wahash Ave., Chicago. Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

### BUREAUCRACY BECOMING BREAK-FAST CAUSERIE—PEOPLE AWAKENING TO DANGERS AT WASHINGTON

Since the ILLINOIS MEDICAL JOURNAL has been crusading for years against the increasing bureaucracy at Washington, and has had its javelins out against the medico-politico hordes that have been bait for the bureaucrats, it is gratifying to note that the menace against which these columns have railed for so long now has bared itself to the whole world in such shocking fashion that bureaucracy and its venoms become not only a breakfast table causerie but luncheon logic and dinner table debate.

When a polished aristocrat and tried diplomat such as Richard Washburn Child fills the columns of the coast-to-coast and boundary-to-boundary newspaper chain of William Randolph Hearst with warnings against this sad and sordid over-centralization at the capitol then truly is the tenet of this journal upheld. Among other elucidations from the pen of Mr. Child was that written under date of Jan. 17 and which read in part as follows:

"Bureaucracy!

"This is a word heard more and more often in the office buildings and cloak rooms of this Congress.

"Already, it is being noted, we have approximately three-quarters of a million federal employes and there will be more, not less. When the government engages in the business of taking over control, regulation and oversight of our economic and social life no matter how much sympathy you have for it you have to face this fact.

"THE MILLION PERSONALITIES NEEDED TO RUN THE COUNTRY ARE NOT A MILLION FRANKLIN ROOSEVELTS.

"Roosevelt knows it and is learning it.

"Congress is awake to it.

"The word 'bureaucracy' may not be pleasant,

but on Capitol Hill that word is being passed around.

"Harding, Coolidge and Hoover all tried to cut out duplication, tried to replace quantity of bureaucracy with quality and efficiency. But still bureaucracy even before the new deal gave so much to government to do, not only resisted the lawnmower but grew like a weed.

"It is not the expense of the thing which need worry us as much as the creation of a system by which it may take half the people of the United States to regulate the other half. It is not so much the fear of the rising cost of government as it is the fear of meddling, interfering, questionnaire-spreading, snooping, autocratic, inefficiency," said one senator to a group.

"It is not so much the drain upon the taxpayers' pocket as the multiplying of dangers of corruption, of intrigue, and popping-jay control of those who know their business by others who know next to nothing about the business.

"Members of Congress who are familiar with the red-tape, the petty corruption, and the political entrenchment of European bureaucracies today are shuddering somewhat at the possible menace of such a growth in our own federal system. They will be heard during this session.

"When it was announced that the controller general, McCarl, had declared unconstitutional the plan for the government to go into landlordism, through the housing corporation, the discussion arose again.

"Criticism of the new deal has no part in the apprehension. Commonly it is said about growing bureaucracy: 'Let us have quality rather than quantity.' We may not be able to find seven hundred thousand Franklin Roosevelts, but let us have fewer and better imitations of such an administrator as he.

*"Experience shows that once a bureau is set up its tenacity is astounding because so much political influence falls in behind it.*

*"Experience has shown that the more men there are in government, the less efficiency and the more corruption and scandal.*

"What the President may well consider is that legislation may be all right, intent may be all right, the designs may be all right.

ADMINISTRATION IS THE GREATEST DANGER OF ALL.

"The million men thought to be needed will not all turn out to be in the President's class and it is difficult to be rid of those who are not."

---

### FEDERAL EMPLOYEES COMPENSATION ACT BEARS ALL THE EAR-MARKS OF ABSOLUTE CAPACITY FOR ULTIMATE TRANSMUTATION OF INDEPENDENT SCIENTIFIC AND MEDICAL PRACTICE INTO A FUNCTION OF GOVERNMENTAL BUREAUCRACY

The alchemist's stone for the propagandists of the socialization of medicine would seem to have been found at last in the ramifications of the new "Federal Employees Compensation Act." This legislation bears all the ear-marks of absolute capacity for ultimate even if gradual transmutation of independent and scientific medical practice into a function of governmental bureaucracy.

Some persons never learn!

The eighteenth amendment is no sooner out of the way, than "Pop! goes the Weasel" for another great and debatable human experiment.

While the whole world howls in revolt against bureaucratic tactics and their attendant, necessities, sustained high tax rates, the United States tax-payer finds himself saddled with another old man of the sea in this would-be altruistic dispensing of medical care to the employees of the Federal Civil Works Administration.

Instructions issued by the United States Compensation Commission relative to the hospitalization and general casualty coverage of the Federal Employees Compensation Act to the tune of over 4,000,000 persons is written in letters of fire to those capable of understating the inscription upon the wall. "Mene, Mene, tekell upharsin" has been written again and again in warning since the days of Babylon if those who run will read.

By the mechanism of this fresh phase of governmental activity every man and woman sustaining injury or occupational disease in the performance of duty is entitled to medical and hospital service at government expense.

FURTHER FOR DISABILITY OR DEATH RESULTING FROM SUCH INJURIES AND DISEASES? THEY OR THEIR SURVIV-



## ING DEPENDENTS ARE ENTITLED TO COMPENSATION.

Now as the government has no money, no income, no revenue other than that obtained by tax levies upon the citizens, this generosity by a bunch of bureaucrats at the expense of you and of me and of our neighbor is highly interesting.

Especially is this true in the face of the fact that this army of employees has been hired and put to work without medical examination or approval, and further, many of these new employees are working in fields of endeavor both foreign and untried and often antagonistic to say the least to their previous labors.

We all know the results of the emergency measure that was prohibition.

Here is another emergency measure, and one that from the inside looks to carry in its train as much woe as did prohibition itself.

For the last twenty-five years socialists and communists have been attempting to make of ethical medicine the catspaw for pulling chestnuts galore from the fire. Only the alertness of the medical fraternity has prevented the practice of medicine from being the opening wedge by which socialism and communism might overthrow the very foundation of the nation. Now the possibilities of the current "emergency" are so far reaching and so innately sinister that both the probabilities and the possibilities of the affair demand serious consideration from the medical profession.

Many things are being done in the present crisis that would never be tolerated even in the council chamber of normal times without extending hearings, referendums and the like by the population at large as well as by the profession and organizations concerned.

As Patrick Henry, hero patriot, remarked:

"I can judge of the future only by the past."

The log of the years as set forth by history, both written and handed down by word of mouth, shows that measures introduced by governments during an emergency not only develop bureaucrats to make effective these emergency measures but, in a vicious circle, tend to attain perpetuation at the hands of these very bureaucrats that have been developed by these emergency measures.

This is the strongest finger that bureaucracy has yet managed to stick into the pockets and

the public welfare of the United States citizenry.

To the man up a tree it looks as if propagandists for communistic medicine had found in "The Federal Employees Compensation Act" their right of way both for the complete socialization of medicine but for the laying of a stout foundation stone for the pyramiding of a taut bureaucracy, not the least of the ramifications of which will be the ultimate socialization not only of the science of medicine but of the very soul and substance of our national democracy.

To offset this menace the physician has but one counter irritant, defense in mass formation—that is, by a perfected group union. Both the educative and the punitive force of medical organization through lay instruction and through political results are well within the scope of a loyal and harmoniously functioning national medical organization of which the strength as a whole will be gauged by the power of its units, from the blanket society to the smallest unit in the most sparsely settled districts of the country. Medicine must not be socialized.

---

### THE MILBANK MEMORIAL FUND DIRECTORS ADMIT HAVING FALLEN DOWN ON THEIR SELF APPOINTED JOB OF WORKING OUT A SYSTEM OF SOCIALIZED MEDICINE

Well! Well!

Joshua commanded the sun and the moon to stand still and got by with it but—the *social* system is less obedient than its *Solar* Sister!

The Milbank Memorial Fund with its large contributions to the Committee on the Costs of Medical Care admits having fallen down in its self-appointed job of working out a system of socialized medicine.

Which might well put into the mouths of physicians all over the United States the familiar chant of

"Weep not for us, oh, ye daughters of Jerusalem, but, oh,

Weep for yourselves!"

Only—and doctor, bear this in mind—neither the Committee on the Costs of Medical Care nor the Milbank Memorial Fund has as yet lost heart in its dubious ambition no matter how much good cash, that deserved a better spending, has been wasted upon such conduits.

Quite candidly the annual report of the Mil-



bank Memorial Fund couches in elaborate language and with ornate statistics the age old axiom, "While there's life there's hope," and connotes that the medical profession is not dead yet, nor socialized and that the Memorial Funds and the Committees can keep right along on their self-charted courses.

The Milbankers are even taking heart of the depression, and trying to conjure this sad state of affairs economic into a level to so humble the proud physicians that they will thank God for the Milbankers and the Memorials and their Funded Ideas!

Now, boys, what price Chagrin?

Apropos of socialism and the Milbank report lend your eyes to this: "The need for such a national plan," says the report, "has long been felt. It seems now that the time has come when it should be formulated and put into action." *With this result in mind the Fund advanced its money grants to the Wilbur Committee, that really "didn't put it across!"*

Loud among the complaints of the Milbank crowd is that medical care is not properly distributed. The primary consideration having to do with the proper distribution of goods and wealth does not harass them at all. Essentially, are they not tied up with the discredited laissez faire policy: exploit the people and then draft the medical profession to take care of the wretched human by-products?

An ironical phase is that so many business men of the reform-the-medical-profession type helped to bring about the depression because of the breakdown of their own distributive methods.

When sick industrialist adopt a code of the ethical significance of the Hippocratic code, there will be no need to talk about the socialization racket.

Dr. J. Bentley Squier has said that "Most medical men devote at least one-half of their entire time to the unremunerative care of the poor and only a part of their time for their own financial benefit. Perhaps the business order will think this over and adopt some such code for itself."

Meanwhile the commercial reformers of medicine might take to heart a bit of scripture and so "cast from thine own eye the beam ere thou consider the mote in thy neighbors."

## HERE ARE THE BUREAUCRATIC ORDERS OF THE FEDERAL CIVIL WORKS ADMINISTRATION RELATIVE TO HOSPITALS IN COMPENSATION CASES ARISING OUT OF INJURIES

The following instructions have been issued by the United States Compensation Commission, relative to the hospitalization of employees of the Federal Civil Works Administration:

*Please instruct each local administrator in your state as follows:*

1. Employees of the Civil Works Administration who suffer injuries while in the performance of duty are entitled to necessary hospital care for the treatment of conditions due to such injuries. An injured employee shall be admitted to and retained in a hospital only as long as hospitalization is necessary for the purposes of treatment or examination. The instructions herein prescribe the procedure to be followed in selecting hospitals for the treatment of these cases and the schedule attached shows the rates to be allowed for hospital care. In no event, however, should these instructions be construed so as to interfere with the prompt and adequate care of an injured employee.

2. Injured employees must be referred to federal hospitals when such hospitals are both available and adequate. It is not intended to utilize these governmental facilities for civil works employees to the disadvantage of other classes of beneficiaries that may be entitled to care in federal hospitals, but that beneficiaries for whom the respective federal hospitals were primarily established shall have preference in the use of such hospitals. However, maximum use should be made of any existing federal medical facilities that may be available.

3. (a) When federal hospital facilities are not available or adequate, cases requiring immediate hospital care shall be sent to the nearest suitable hospital which desires to participate in the service at the rates specified in the approved schedule of rates. Public hospitals, other than federal, are not to be given preference.

- (b) The following factors should be considered in determining suitability: the proximity of the hospital, type of service, e. g., whether the hospital is well qualified to handle the special type of case, and the general quality of service.

- (c) You should secure advice as to the suit-

ability of local hospitals from one or more of the following local sources: medical advisory councils which may already be set up under Rules and Regulations No. 7, of the Federal Emergency Relief Administration; hospital associations; hospital, health or similar councils; county medical societies; boards of public welfare or health.

4. (a) All hospital care must be authorized in writing by the proper officials on the staff of the local Civil Works Administrator. Care of emergency cases should not be delayed for a written authorization, but this must be furnished within forty-eight hours after admittance to a hospital.

(b) An authorized physician in charge of the treatment of an injured employee as a compensation patient, when hospital care is required, may send the patient to a hospital of the physician's selection provided the hospital thus selected agrees to the approved schedule of rates. However, hospitalization in such cases must be approved in writing as provided in paragraph 4 (a).

5. The Commission reserves the right to have its medical representatives examine patients at the hospital and examine the records of these patients and to cause the patient's removal when the Commission considers it necessary in the interest of the patient or to prevent overcharge, or for other sufficient reason. Hospital records of these patients shall be open to inspection by representatives of the Commission.

6. The Commission, in conference with representatives of the national hospital associations, has agreed on a basic rate for the care of injured Civil Works Administration employees in general hospitals, exclusive of federal hospitals. This rate includes many items for which extra charges are usually made. A schedule of rates for other services which are not included in the basic rate has also been agreed to. The national hospital associations have agreed to notify their members of these approved rates and urge their full cooperation with the Commission. The approved schedule of rates is attached hereto. Charges for services previously rendered will be adjusted under this schedule. (See paragraphs 34 and 35 of Civil Works Administration Rules and Regulations No. 5 for instructions concerning submission of vouchers.)

7. Each local administrator must make ade-

quate provisions for the transportation of seriously injured employees to obtain medical treatment, by arrangements made in advance for each work project. This may be done by arrangements for the use of automobiles available at the project, by agreement concerning the use of local ambulance services or such other arrangements as may be feasible. Ambulance service provided by hospitals is covered in the approved schedule of rates.

#### U. S. Employees' Compensation Commission.

#### SCHEDULE OF HOSPITAL FEES AGREED UPON BETWEEN THE JOINT COMMITTEE OF THE AMERICAN, CATHOLIC AND PROTESTANT HOSPITAL ASSOCIATIONS, THE CIVIL WORKS ADMINISTRATION AND THE U. S. EMPLOYEES' COMPENSATION COMMISSION

A \$3.50 per diem rate for all hospital cases of injured employees of the Civil Works Administration will be general throughout the United States, regardless of local hospital costs or charges. This rate will apply in general hospitals, exclusive of federal.

The following items will be included in the rate:

The use of a single room when necessary	
General medical and surgical care by the house staff	
Ordinary nursing	
Special diets	Usual medicines
Usual dressings and surgical supplies	
Usual laboratory tests, such as	
Blood counts	Hypodermoclysis
Smears	Coagulation time
Usual urine tests	Hemoglobin estimation
Wassermann tests	Occult blood
Precipitation tests for syphilis	Skin tuberculin tests
Widal tests	Spinal fluid smears and cell counts
Agglutination tests	Sputum examinations for tubercle bacillus
Blood typing	Other usual bacteriologic tests
Material for plaster casts	
Colonic irrigations	
Such physical therapy treatments as may be necessary for patients in the hospital	
Autopsies and reports of same when a patient dies in the hospital	

Such physical therapy treatments as may be necessary for patients in the hospital.

Autopsies and reports of same when a patient dies in the hospital.

There will be no charge for medical or hospital reports unless an actual transcript of the hospital record is requested, in which case charge for same will be made in accordance with the local public stenographers' rates.

Charges will be allowed for the day of admission, but not for the day of discharge or death,



In addition to the foregoing rate it will be permissible to make the following extra charges

1. An operating room fee of \$5 for a minor operation and \$10 for a major operation. A general anesthesia fee of \$5 for a minor operation and \$10 for a major operation, to include anesthetic service by a salaried employee of the hospital and the cost of the anesthetic.

2. Laboratory examinations of an unusual character, such as complete blood chemistry, gastric analyses, etc., may be charged for at a rate of from \$3 to \$5, according to the nature of the examination (which must be specified in the voucher submitted), \$3 being the usual charge allowed for such examinations and reports.

3. Fee for special nursing when necessary will be allowed in accordance with the local prevailing rate or when furnished by a salaried employee of the hospital, at actual cost.

4. X-ray examination will be paid for in accordance with the following rate, the number of films and procedure for each fee being indicated by the description below:

	No. of Films	Price
Ankle joint, anteroposterior and lateral views..	2	\$ 2.50
Arm, humerus, anteroposterior and lateral views	2	2.50
Bladder, with injection, anteroposterior views..	1	5.00
Chest, for pulmonary or cardiac diagnosis, plain	1	3.75
Chest, for pulmonary or cardiac diagnosis, stereoscopic .....	2	5.00
Clavicle, postero-anterior view.....	1	2.50
Elbow, anteroposterior and lateral views.....	2	2.50
Fluoroscopy, when required, without film.....	1	1.00
Foot, anteroposterior and lateral views.....	2	2.50
Forearm, radius and ulna, anteroposterior and lateral .....	2	2.50
Foreign body in eye, location of (the fragment charted in three planes and its dimensions ascertained by the method of Sweet or equivalent as needed).....	..	12.50
Gallbladder, Graham technic, including cost of dye .....	1	10.00
Gastro-intestinal tract, complete x-ray study, including fluoroscopy, as needed.....	..	12.50
Hand, anteroposterior and lateral views.....	2	2.50
Hip joint, plain, anteroposterior view.....	1	3.75
Hip joint, stereoscopic, anteroposterior view....	2	5.00
Intestine, barium clysm, 14 by 17 films for position and outline, as needed.....	..	7.50
Jaw, upper or lower.....	1	2.50
Kidneys, right and left, for comparison, 11 by 14 films, as needed.....	..	5.00
Knee joint, anteroposterior and lateral views... 2	2	2.50
Leg, tibia and fibula, anteroposterior and lateral views .....	2	2.50
Lodized poppy-seed oil injection for bronchiectasis, etc., including roentgenograms and interpretation, as needed.....	..	12.50
Pelvis, 14 by 17, single film, anteroposterior view .....	1	5.00
Pyelography, using iopax or similar preparation (including cost of drug).....	4	10.00
Ribs, plain view over suspected area, 10 by 12 film .....	1	3.75
Scapula .....	1	2.50
Shoulder joint, plain, anteroposterior views....	1	2.50
Shoulder joint, stereoscopic, anteroposterior views .....	2	5.00
Sinuses, frontal and ethmoid, anteroposterior and lateral views.....	2	5.00
Sinuses, mastoid, right and left sides for comparison .....	2	5.00
Sinuses, maxillary, anteroposterior and lateral views .....	2	5.00
Skull, ventriculogram, air injection, as needed..	..	7.50
Skull, anteroposterior and lateral views.....	2	5.00
Skull, stereoscopic .....	2	7.50
Spine, cervical, anteroposterior and lateral views	2	5.00
Spine, dorsal, anteroposterior and lateral views.	2	5.00

Spine, lumbosacral, with coccyx, anteroposterior and lateral views.....	2	5.00
Stomach, barium or bismuth meal, 14 by 17 film, after ingestion four 8 by 10 films for detection of duodenal cap; total of four 8 by 10 films, including fluoroscopy.....	4	12.50
Teeth, single film .....	1	1.00
Teeth, each additional film up to and including five films .....	1-5	1.00
Teeth, series (five films up to and including full mouth) .....	(over 5)	5.00
Thigh, femur, anteroposterior and lateral views.	2	3.75
Ureters, right and left, for comparison.....	(1 or 2)	7.50
Wrist, anteroposterior and lateral views.....	2	2.50

5. Unusual expensive medication and appliances will be supplied at cost. This includes such items as oxygen administration (marked preference being given to the use of commercial oxygen); biologicals; prosthetic and orthopedic appliances, when furnished by the hospital. Blood transfusions not to exceed \$5 per hundred cubic centimeters to donor, and a hospital charge of \$5 for the transfusion as a minor operation will be allowed.

6. Ambulance charges when furnished by the hospital may not exceed a minimum rate of \$3 when the call is within a three-mile radius of the hospital. An additional rate of 50 cents per mile beyond the three-mile radius, one way, will be allowed.

7. Professional and other fees of persons not employed by the hospital are not included in this agreement.

8. Fees for hospitalization, and prophylactic treatment of contagious diseases not ordinarily treated in general hospitals, are not included in this agreement and should be subject to local regulation.

### The 1934 ANNUAL MEETING

Elaborate plans are now under way for the 1934 Annual Meeting to be held in Springfield on May 15, 16, 17. The Sangamon County Medical Society has selected Dr. A. E. Walters of Springfield as General Chairman of the Committee on Arrangements, and the entire Society membership is divided up among the various committees, so that every member will have some specific duties to perform in connection with the meeting.

The meeting will be held in the large Knights of Columbus Building where the meeting was held two years ago, and every scientific section and general meeting will be held under one roof. The exhibits will be shown on the third floor of the same building.

There are several features of the meeting which are being arranged for the interest of the many members and guests who expect to be present. Under the supervision of the President and Secretary of the State Medical Society, a committee of ten specialists has been selected to give daily fracture demonstrations, and it is the intention of the committee to show the various common fractures, and demonstrate the approved methods of treatment for each of them.

This plan has been used for five years at the



annual meeting of the American Medical Association and all physicians who have seen these demonstrations will appreciate the importance of this project. There will be many interesting technical and scientific exhibits, which are being carefully planned so that they will be of interest to all physicians of Illinois.

The officers of the five scientific sections are arranging their programs carefully, and are planning on two or three symposiums to be given during the meeting. On Thursday morning, May 17, all sections will unite in presenting a general session which will appeal to everyone. Two or three basic subjects are to be used in arranging this program.

The Oration in Medicine will be delivered by Dr. Walter L. Bierring, of Des Moines, Iowa, who is not only President-Elect of the American Medical Association, but is also an outstanding internist of the country. We are most fortunate in having Dr. Frederick Cotton of Boston, an authority on Orthopedic Surgery, to deliver the Oration in Surgery.

The Secretaries Conference will be held on Tuesday morning, May 15, and the officers of the Conference will have one of the best programs ever given at our meetings, and one that will appeal not only to the many officers of component societies throughout the state, but also to the membership as a whole. More details concerning this Conference will be announced in the April JOURNAL.

The Pediatricians will hold their own meeting on Tuesday morning and this group has arranged a program that should be of interest to every physician in Illinois who does any work among children. Other special groups have been granted the privilege of arranging their own meetings on Tuesday morning, and special announcements concerning them will be made at an early date.

The Veterans Service Committee Dinner meeting will be held on Tuesday evening, May 15, and an excellent program has been arranged.

Wednesday evening, May 16, will be devoted to honoring our President, Dr. Philip H. Kreuscher. The President's Dinner will be held at 6:30 P. M., and the Past Presidents of the Society will be the guests of the Society at this function. Following the dinner the evening will be spent in dancing or cards, as preferred. It

is hoped that everyone attending the annual meeting will arrange to honor our President on Wednesday evening.

More details concerning the meeting and the preliminary program of each section will be published in the April ILLINOIS MEDICAL JOURNAL, and every member is urged to arrange now to be present at the 1934 "New Deal" Annual Meeting.

---

### MEDICAL ECONOMICS

The responses to the questionnaire sent to the doctors of Pulaski, Franklin, Livingston and Winnebago counties have been slow in coming in. As a result it has been impossible for your committee to do much more than chart the same and be prepared to study the completed returns. A few general statements are possible at this time. The income of the doctors of the state have on the average been diminished at least one-half in the past four years. The only exceptions to this rule are the men either on a salary, which has not been cut, or new men in a community who are building up a practice and have been able to go only one way and that is upward. The responses from Winnebago county were very good and the majority of men apparently kept their books so that they were able to fill out the questions accurately and easily. As a result we feel confident that we will have some very good statistics to present at the state meeting in Springfield next May. There has been so much loose talk by those both in and out of the profession as to the income of doctors that authentic figures will we feel sure be enlightening to all of us. We note that there is a lack of uniformity in charges by the doctors practicing in the same community. For instance in one of the counties above mentioned the charge for mileage on country call varies from twenty cents to one dollar. Surely this in itself should be evidence that the doctors do not agree amongst themselves and if they do they fail to keep their word. Another interesting fact is that the amount of free work is increasing rapidly. Again only the records of those who keep accurate and complete account of their work can be relied upon. These show that on the average the men are doing at least twice as much charity work as they did four years ago. And as you well know charity work

is very different from the work for which charges are made but in which collection is impossible.

There is a surprisingly large number of men who are on either part or whole time salary. Whether this is a vane as to the trend of medical practice is hard to tell but surely it is proof that doctors are being obliged to do considerable work at a rate well below the accepted schedule of the community in which they live. This is demoralizing to the other men in the community and while we have no solution to the problem, we mention the fact as one worthy of consideration. In most cases the salaries have been cut, although not in the same degree as the income of the private practitioner. And even then there are many men on salary, who in their remarks state that they are far from satisfied with the conditions under which they work and the compensation they receive for the same.

Under remarks, many interesting comments and questions are brought out. These show that the doctors are genuinely concerned about the future of the practice of medicine and that a large percentage have their pet theory as to what the trouble is and how to remedy the same. Many of them mention that the overhead of most doctors is too high and advise a cutting down of overhead. This of course is advice easily given and hard to put into practice.

If there are some of the men in the counties to which the questionnaires were sent who have delayed sending the same to the Chairman of this committee, please do so at once, so that the complete report can be arranged in the near future. Up to date we have received about 85 in various degrees of completion. This is less than 50% of the number sent out but it is encouraging that so many are willing to cooperate in compiling definite statistics in regard to the income of doctors and the amount of free work that they are doing.

Questions in regard to the fee schedule of the Illinois Emergency Relief Commission and how to get the same in operation in counties which now are without that service should be addressed to either the Chairman of that committee, Dr. John Neal, Springfield, Illinois, or the Secretary of the Illinois State Medical Society, Dr. Harold Camp, Monmouth, Illinois.

Any questions on Medical Economic subjects will be answered by someone in position to do

so, if sent to the Chairman of this committee with a stamped, self addressed envelope enclosed.

E. S. Hamilton, Chairman,  
Medical Economics Committee.

Kankakee, Illinois.

---

### CAN INDIVIDUALISM SURVIVE?

Historians fifty years from now will be debating the place of 1933 in the calendar of history; one hundred years hence they may be agreed as to its significance. All that we know now is that for turmoil and insecurity, upsets and changes, and heroic endeavors to find a way out, it has not had an equal in a generation. It has tried men's souls as much as the exigencies of war ever did, and the casualties and scars and ill-effects will be felt by civilization for a century. Malnutrition, unemployment, frustration, despair and discouragement accompanying what all hope to be the tag-end of the record-breaking depression have broken physical and mental health and have wrecked even the morale of millions. Between the attrition of fraternal altruism, frank charities on one hand and the iniquitous propaganda of socialized medicine and charlatanism on the other, the family doctor has been given so little thought, or entirely ignored, that he has been all but obliterated.

His former isolation through poor communication and transportation developed in him an effective individualism which made him an outstanding figure of the community not only for medicine but for civil government and religion, but the developments of therapeutic refinements, laboratory aids and physical therapy have changed all this. Whereas a generation ago the doctor prepared his own drugs, did his own nursing and cared for all ailments and injuries, that has all passed into history. Today we are a world of specialists.

We have just read E. G. Shinner's book, "The Forgotten Man." It is a business man's analysis of industrial problems but it brings to mind the universality of all our difficulties, regardless of our vocations.

His examination, analysis and careful study of the new types of economic structure is very interesting, in that he reminds us that a weakness in human nature from which few of us are immune is to look far afield for the cause of our



failure when, as a matter of fact, it is wholly within ourselves.

"Our periods of prosperity have in a large measure been responsive to our various major developments. Each activity creates a new demand for both capital and labor, and each wave of prosperity brings benefits that are countless, unending and priceless. New activities, new developments, always bring new opportunities and profits which when spread out over a wide enough area mean prosperity," and perhaps it has been our recent prosperity wave which permitted the inroads of the paternalism of endowed institutions, the haughty arrogance of social service organizations, and the radio-broadcast propaganda of charlatans to displace the medical man and woman. But instead of "shooting at the moon" in our attacks on endowed clinics and cut-rate laboratories, (cut the price in one place and the service in another), it behooves the physician to step out a stride ahead of these trailers and affiliate himself with a hospital or medical group engaged in research and thus become a factor in some crying need of today. For example every hospital or medical group has or should have a research department carrying on work in metabolism, cancer, cardio-vascular disease or some other vital problem, participation in which provides an opportunity to receive immediate benefit from newly discovered methods of treatment of these diseases. The study of lead in the treatment of cancer, lead poisoning, the relation of the pituitary to cancer growth, the effect of raising the body temperature by means of radio-waves, the effect of diet on disease, the use of pancreatic extract in the treatment of angina pectoris and other circulatory diseases all indicate new and useful clinical procedure. It is by close touch with these research developments throughout the world and the interchange of research data with other research centers that the family doctor widens his scope of usefulness. Every year of practice must bring as much learning into our lives as did a year in college or else we are slipping. It is within us, and the opportunity is at hand for us, to obtain and apply these new discoveries. If you have not read "THE FORGOTTEN MAN" by E. G. Shinner, do so now.

PUBLIC POLICY COMMITTEE.  
Illinois State Medical Society.

## COMMITTEE FOR ANNUAL MEETING AT SPRINGFIELD

*Reception*—Don Deal, Geo. Stericker, Jr., Henry Lutyens, A. W. Barker, J. G. Meyer, I. W. Metz, T. F. Hill, D. G. Lockie.

*Entertainment*—A. E. Walters, Harry Otten, H. P. MacNamara.

*Information*—Harry Otten, Harry H. Southwick, H. T. Morrison, David McCarthy, R. T. Clark, Geo. J. Mautz.

*President's Dinner*—John Neal, Samuel E. Munson, J. E. Reisch.

*Publicity*—John J. McShane, R. C. Cook, Geo. M. Harper, A. L. Stuttle.

*Meeting Place*—O. L. Zelle, W. P. Armstrong, Jr., W. P. Levis.

*Surgery*—Jas. A. Day, Chas. L. Patton, C. W. Compton.

*Medicine*—N. Rosen, C. V. McMeen, Geo. H. Vernon, B. J. Kuly, E. K. Lockwood, T. D. Master, E. F. Pearson.

*Eye, Ear, Nose, Throat*—E. E. Hagler, J. F. Deal, E. T. Blair, R. I. Bullard, C. P. Colby, A. L. Hagler, F. B. Jones, E. A. Morris.

*Public Health*—H. S. Houston, R. K. Campbell, G. Koehler, Grace O. Wightman, R. H. Woodruff.

*X-Ray*—Walter Bain, F. S. O'Hara, L. M. Hilt.

*Finance*—Homer P. MacNamara, J. R. Neal, A. E. Walters.

*Registration*—P. L. Taylor, N. H. Chestnut, C. B. Stuart, B. W. Hole, E. S. Spindel.

*Transportation*—C. W. Milligan, J. C. Walters, Robert Flentje, J. R. Irwin.

*Exhibits*—A. C. Baxter, E. L. Bernard, O. H. Diechmann, H. L. Metcalf.

*Contact*—C. C. Copelan, Corwin Mayes, Chas. F. Harman, J. M. Salzman.

*Ladies' Entertainment*—O. F. Maxon, H. H. Cole, Elizabeth B. Ball, Clara F. Holmburg.

*Alumni*—Corwin Mayes, J. A. DeFreitas, L. D. Wright, M. M. Bradley.

*Advisory*—C. A. Frazee, Geo. Stericker,\* Sr., W. P. Armstrong, Sr., W. A. Young.

*Fraternity*—D. I. Martin, David E. Barker, Geo. Harvey, M. B. Jelliffe.

*Golf*—Fred Cowdin, R. I. Bullard, D. C. Ditmore.

*Ladies' Golf*—R. F. Herndon, Frank A. Evans, Franklin Maurer.



*Legion*—R. D. Dugan, H. B. Henkel, Stuart Broadwell, J. C. Jackman, S. R. Magill, H. H. Tuttle.

*Show Committee*—

*Colored Reception*—Robert H. Beverly, S. A. Ware.

*Pediatrics*—O. E. Ehrhardt, H. C. Blankmeyer.

*Industrial Surg.*—G. W. Staben, D. J. Lewis, J. J. Donovan, Henry Aschauer.

*Secretary's Conference*—H. P. MacNamara, W. W. VanWormer, E. A. Walsh.

*Clinics*—J. A. Lindquist, A. G. Hofferkamp, G. C. Hunt, W. C. Martini.

*Attendance*—J. E. Reisch, J. C. McMillan, Chas. McLaughlin, L. E. Orr, Geo. T. Palmer, Thos. W. Priest, M. E. Rolens, H. W. Sears, J. M. Shearl, Robert E. Smith, A. R. Trapp, C. W. Yeck.

#### DOCTORS DESIRING TO PRESENT PAPERS AT 1934 ANNUAL MEETING.

Members of the Illinois State Medical Society desiring to present papers at the 1934 Annual Meeting to be held in Springfield, May 15, 16, 17, 1934, should get in touch with the proper section officers as soon as possible.

Owing to the large membership of the Society, it is desirable to place members on the program each year who have not appeared in recent years.

The number of speakers at the annual meeting for each section is limited; consequently it is desired that all papers should be of interest to the members in general. Any member desiring to make a presentation at the annual meeting in any of the five scientific sections should write the Section Officers, giving the title of the paper, and an abstract of the same. If interesting case reports are desired to be given, tell briefly about the case of unusual interest, in making application for the place on the program.

It is the desire of all officers of the Sections to make the 1934 Annual Meeting program an outstanding one, and arrange it to the best advantage of all members. On Thursday morning, the last day of the meeting, it is planned to have a joint session of all five scientific sections, and present papers which will be of interest to all members regardless of their own special inclinations in practice.

Members desiring to make a presentation of

either a paper or interesting case report, should get in touch with the proper Section Officers at an early date. The officers of each Section are herewith given.

#### *Section on Medicine*

R. F. Herndon, Chairman, Springfield.

Don C. Sutton, Secretary, 30 North Michigan Blvd., Chicago.

#### *Section on Surgery*

George W. Post, Chairman, 4010 West Madison Street, Chicago.

B. V. McClanahan, Secretary, Galesburg.

#### *Section on Eye, Ear, Nose and Throat*

George S. Duntley, Chairman, Macomb.

O. B. Nugent, Secretary, 231 West Washington Street, Chicago.

#### *Section on Public Health and Hygiene*

J. Howard Beard, Chairman, Urbana.

Lloyd Arnold, Secretary, 1817 West Polk Street, Chicago.

#### *Section on Radiology*

Robert F. Arens, Chairman, 2839 Ellis Avenue, Chicago.

F. Flynn, Secretary, Decatur.

#### FURTHER OBSERVATIONS ON PREPARING COPY

In addition to the data on preparing papers for publication in the JOURNAL as published in the February issue the following suggestions are submitted to promote uniformity and save time and labor on the part of authors, editors, printers and others involved:

*Phony Locutions*: "He operated six cases; others were unoperated." It seems incredible that any physician or surgeon could be guilty of such a sentence, but unfortunately it is not so uncommon. Others "operate" patients. Why not operate "in" the case or "on" the patient.

The following quotation from Stedman's Medical Dictionary may clarify this usage:

"*Case* (kās) (L. casus, an occurrence). An instance of disease with its attending circumstances. The patient is not the case; the *patient* dies or recovers, the *case* terminates fatally or ends in recovery; the surgeon operates *in* a case, but operates *on* the patient."

Smith, Brown etc. Why not Smith, Brown et al.?

"Cases in whom" should be cases in which, but "patient in whom" is correct.

**Capitalization:** No capitals unless proper name or beginning a sentence: thus doctor, physician, dentist, pediatrician.

Names of diseases and medicines not capitalized unless named for a *person*.

X-ray not capitalized unless beginning a sentence.

Titles of articles when referred to *in the article* are not capitalized, or if capitalized should be in quotes.

**Compound Words:** Many medical terms formerly written separately or hyphenated are now run together as in German, which has a certain scientific advantage however cacophonous the sound. Recent editions of both Dorland and Stedman have pharyngomaxillary and sternocleidomastoid which were formerly hyphenated. A classical example of the German style is the word for postnasal catarrh:

"Nasenrauchenraumschleimhautgeschwulste."

A more recent example of this tendency is the title of an article in November ILLINOIS MEDICAL JOURNAL:

"Cholecystelectrocoagulability."

This title, by the way, was originally set differently but changed on the proof which shows that such combinations may be distributed according to varying ideas of either euphony (?) or onomatopoeisis.

Stedman writes all gastro compounds without hyphens. Funk & Wagnall's Standard uses hyphens, indicating that medical practice follows the German style more closely.

#### *Names Often Misspelled*

abscess	inflamed
anemia	inflammation
anastomosis	inoculation
anesthesia	myxedema
benefited	per cent. (2 words with period)
bactericidal	preventive
calcareous	septicemia
carcinoma	smallpox (one word)
caseous	syphilis
diphtheria	thorough
dyspnea	though
edema	through
esophagus	tonsillitis
goiter	tryparsamide
hemorrhage	x-ray
Hippocratic	

Numbers under 10 to be spelled out; over 10, use Arabic numerals.

James O'Donnell Bennett, in the *Sunday Tribune* of January 28, February 11, and 25,

published lists of words that have been shortened and simplified by the *Tribune*. These lists have aroused much interest concerning the forms that show derivations or obscure them. However, as these lists contain ordinary English words only they are not of particular interest in our study of medical terminology, except as improvement in the language will benefit all of us.

#### VETERANS' DINNER AT ANNUAL MEETING

The Veterans' Service Committee of the Illinois State Medical Society, with Dr. F. O. Fredrickson as Chairman, has arranged an unusually interesting dinner program for the Annual Veterans' Dinner in connection with the Annual Meeting to be held in Springfield on May 15, 16, 17. The dinner will be held on Tuesday evening, May 15.

The speakers on this program will be National Commander Edward H. Hayes, of the American Legion, Dr. E. H. Cary, Past President of the American Medical Association and Chairman of the A. M. A. Committee on Legislation, of Dallas, Texas, and Dr. T. B. Williamson, Department Surgeon of the American Legion, Department of Illinois, and also a member of the Veterans' Service Committee.

The Veterans' Dinner and Annual Meeting has been an important function at the Annual Meeting of the Illinois State Medical Society since it was first held some years ago, and the Committee is to be congratulated on having an excellent array of speakers for the next meeting.

All medical veterans of Illinois are expected to be present, and all other members of the State Medical Society are cordially invited to be present as well, and it is hoped that the efforts of the Veterans' Committee will be rewarded this year with the largest attendance of all times.

#### MAKE YOUR HOTEL RESERVATIONS EARLY

Springfield, the host for the 1934 Annual Meeting, has been working for some months on plans for the best meeting of all times, for the Annual Meeting to be held in that city on May 15, 16, 17, 1934.

Although Springfield is well supplied with ex-

cellent hotels, it is hoped by the Committee on Arrangements that all members expecting to attend the Annual Meeting, make their hotel reservations well in advance of the meeting. This can be arranged by writing the hotels directly, or addressing the Chairman of the Hotel Committee in Springfield.

Spurred by the unusually successful and largely attended meeting held in Peoria last year, the Committee on Arrangements from the Sangamon County Medical Society are doing everything possible to equal or perhaps exceed the 1933 registration.

It is always desirable to have hotel accommodations arranged for in advance of the meeting, and such a procedure will not only aid the members attending the meeting, but will also be of great help to the local committees, as well as the hotels, in order that adequate arrangements may be completely assured.

---

### THE VALLEY CAMP COAL COMPANY RAN TO COVER WHEN ITS RIGHT TO PRACTICE MEDICINE WAS QUESTIONED

The *West Virginia Medical Journal*, 1934, comments editorially on the attitude of the Valley Camp Coal Company when their right to practice medicine was questioned. We quote:

#### "THE PAYROLL DEDUCTION GRAB

"One of the results of the late economic depression was the payroll deduction grab that was worked by a large number of employers of labor on their company doctors. For a good many years the employees of large mines or industries, especially in isolated places, have contributed a small monthly wage 'check-off' for medical service. A company doctor was then employed to render the medical service and the 'check-off' was turned over to him. He rendered all the medical service and he got all the money. If the men liked him, he stayed on the job. If they didn't like him they threw him out.

"Then came the debacle of 1929. Industry began to lose financial ground. In looking about for new ways to stem the tide, they hit on the plan of hiring the company doctor themselves, of paying him a modest salary much below the actual 'check-off', and of putting the difference

in their own pockets. In other words, they decided to go into the practice of medicine themselves and barter medical service to their employes for a profit.

"In an effort to put a stop to this new and unwarranted abuse, the West Virginia State Medical Association went into court last spring for an injunction against the Valley Camp Coal Company. The suit was brought by Dr. J. T. Nolan, a member of the Association and a former 'company doctor' for the Valley Camp Company. Dr. Nolan's petition set forth that the Valley Camp Coal Company was practicing medicine without a license and requested that they be enjoined.

"All too quickly the Association, through Dr. Nolan, won its point. The Valley Camp Coal Company has ceased the practice of medicine and all money collected from their employees for medical service is paid over to the doctor or doctors who render that service. In other words, the Valley Camp Company threw in the sponge and, by refusing to fight, left nothing to be appealed to our state supreme court.

"The result of the Valley Camp case was both disappointing and gratifying. It was disappointing in that we failed to receive the state-wide ruling which was our objective. It was gratifying in that one of the largest coal producers in West Virginia ran to cover and waved the white flag when we endeavored to question their methods of doing business. While we do not have a supreme court ruling on this particular question, we do have a good wholesome precedent for future guidance. It is usually the case that when the Paisley lawyers run, everybody runs."

---

### BARBITURATES

As a preanesthetic, the proper amount of derivatives of barbituric acid given in small doses by mouth or intravenously, beginning 12 to 14 hours before the maximum effect is desired, will probably give more satisfaction than any other drug except opium that has been used for years. To relieve a nervous, high strung, sensitive patient of a sleepless night, with only partial remembrance of the trip to the operating room and of the first day after operating, is to lift from him a terrific nervous strain which, probably, few of us understand.

The barbiturates now claiming so much attention are the most dependable agents we have.—Dr. J. T. Mason, in *Surg. Gynec. & Obstet.*, Apr., 1932.



## Correspondence

### PLAN TO LOOSEN UP FROZEN CREDITS OF THE MEDICAL AND LEGAL PROFESSIONS

THE LAWYERS CLUB OF LOS ANGELES  
COMMITTEE ON PROFESSIONAL MEN'S CREDITS  
LOS ANGELES, FEBRUARY 3, 1934

*To the Editor:* Enclosed is a copy of a resolution of The Lawyers Club favoring a plan to loosen up the frozen credits of the medical and legal professions. As rapidly as we are able we are getting it to organizations of both professions and to such members of Congress as we can reach. We should appreciate your endorsement and such publicity as you can give it.

The plan is to have a Federal agency prescribe a standard form of obligation to be executed by the client or patient, payable in five years, to be limited to debts arising from bona fide professional service, to be endorsed by the practitioner, then to be discounted by the agency. The doctors and lawyers spend freely in proportion to their incomes. A great deal of money would be put into very general circulation and the government would get most of it back.

Our patients and clients, in the aggregate, are the solid, credit-worthy members of the community. They have needed professional service during the emergency. They need it now. They find it all but impossible to get cash with which to pay. We cannot do our full duty to the public unless we have money to provide facilities and to provide for our dependents.

We hope you can support this measure editorially and urge your professional groups to send appropriate resolutions to their Congressmen and Senators and supplement such effort as far as possible. There is a real opportunity here to give some quick relief without departing too far from sound financial principles.

The following is the resolution:

WHEREAS, the Government of the United States has been extending credit to many classes of the community which have been unable to secure loans or extensions in the ordinary course of business;

WHEREAS, no such aid has been extended to professional men;

WHEREAS, professional men, notably lawyers and doctors, must render service when required

regardless of the ability of the client or patient to pay;

WHEREAS, most members of the legal and medical professions have rendered such service during the years of economic depression and now have upon their books charges for such service against clients and patients who are willing to pay but who are unable to secure funds, despite the ownership of property;

WHEREAS, this condition has resulted in placing said professional men in serious financial straits, in that they must pay in money for certain of their facilities and the support of their families while unable to collect sufficient sums in money from their debtors; and

WHEREAS, the debtors of the professional men, in the aggregate, consist of the most responsible portion of the community, whose credit in the aggregate is the foundation of all local credit;

*Be It Resolved* by The Lawyers Club of Los Angeles that the Congress and the President be importuned to act promptly for the relief of such professional men by setting up a system whereby the debtors of professional men, at least lawyers and doctors, may arrange long credit terms upon obligations that will be discounted at a low rate of interest by a Federal agency, thus releasing to the professional men amounts of cash in return for the credits which are now but frozen assets; and

*Be It Further Resolved* that copies of the resolution be dispatched to the California delegation in Congress, the President of the United States and that the committee take such other steps to foster the spirit of the resolution as it or the Board of Governors may be advised.

### EXAMINATION FOR AMEBIASIS AT CHICAGO BRANCH OF THE STATE DIAGNOSTIC LABORATORY

Springfield, February 7, 1934.

*To the Editor:* In view of the great interest recently stimulated in amebiasis and the problem concerning this disease which has been thrust upon Illinois, the State Department of Public Health has undertaken to establish the accuracy of blood tests for the diagnosis of this disease. Arrangements have been made by Dr. Lloyd Arnold and Dr. Emil Weiss to do these tests at the Chicago branch of the State Diagnostic Laboratory, which is located at 1819 West

Polk street, Chicago. These workers have already done a total of fourteen complement fixation tests on patients known to be suffering from amebiasis, and the results on all fourteen were three and four plus reactions. Wassermann tests were run on all of the specimens for control purposes and the Wassermann was negative in each case.

With these promising results at hand it is felt that the examination of a large number of cases at this time would establish the accuracy of this method of diagnosis. Getting samples submitted to the laboratory would involve, of course, the co-operation of physicians who have under their care patients known to be suffering from amebiasis.

Over 100 cases of amebiasis have been reported in Illinois so far this year and most of these are in Chicago and vicinity. It would seem, therefore, that a considerable number of blood samples might be obtained if information concerning the project can be disseminated among physicians.

For these reasons I would appreciate it very much if you will run a notice in the next issue of the JOURNAL to this effect.

FRANK J. JIRKA, M. D.,  
Director of Public Health.

BACK NUMBERS OF THE JOURNAL  
WANTED

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS  
AND SURGEONS

630 WEST 166TH STREET, NEW YORK  
LIBRARY

February 19, 1934.

To the Editor: I am a great admirer of your forceful editorial policy and the progressive attitude maintained by the ILLINOIS MEDICAL JOURNAL. Our library file of your journal lacks the following parts: v. 1-2; v. 3 No. 1-7; v. 4 No. 9, 11-12; v. 12 complete; v. 17 No. 2; v. 22 No. 1, 3-4; v. 23 No. 2.

Would it be possible to insert a free advertisement in your journal for us? The favor would be greatly appreciated.

Alfred L. Robert,  
Medical Librarian.

DATA WANTED ON THE INCIDENCE OF  
CRETINISM IN THE UNITED  
STATES

The Jackson Clinic,  
16 South Henry Street,  
Madison, Wisconsin.  
February 10, 1934.

To the Editor: I am making a survey on the incidence of cretinism in the United States, and would greatly appreciate it if you would insert a notice in your JOURNAL to this effect and ask any of your readers who might have records of such cases to communicate with me. I am enclosing (see below) a form which contains the information desired.

No one has ever attempted to make a survey of this kind and it will only be through the co-operation of the medical journals and the profession that it will be possible to make such a survey. I will be especially interested to receive any photographs of these cases. I am asking that the names and addresses be given in order to eliminate the duplication of cases. When this data is compiled, I expect to turn it over to the American Medical Association, where it may be filed for further reference and study.

BLANK FORM FOR DESIRED DATA

Name .....Address .....  
Nativity..... Age..... Sex.....  
Brief Physical Characteristics.....  
.....  
.....  
Brief Clinical History.....  
.....  
.....  
Goiter { Present  
          Absent.....Mental Status .....  
Results of Medication.....  
Signed .....

Arnold Jackson, M. D.

MEETING OF MID-WESTERN SECTION  
AMERICAN CONGRESS OF PHYSICAL  
THERAPY

The Mid-Western Section of the American Congress of Physical Therapy will hold its spring session on Tuesday, March 13, 1934, at Indianapolis, Indiana. The morning will be devoted to clinics at the University and Indianapolis City Hospitals. The afternoon scientific session, commencing at one o'clock, will be held at the Indiana University School of Medicine. The evening session at eight o'clock will be held jointly with the

Indianapolis Medical Society, at the Athenaeum. The following is the scientific program:

#### Afternoon Session

1. Some Problems in Physical Therapy—Albert F. Tyler, M. D., President, American Congress of Physical Therapy.

2. Treatment of Precancerous Lesions of the Face—Disraeli Kobak, M. D., Assistant Professor of Medicine, (Physical Therapy), Rush Medical College of the University of Chicago.

3. Experimental and Clinical Observations on the Use of Irradiated Ergosterol—C. I. Reed, Ph. D., Assistant Professor of Physiology, University of Illinois College of Medicine.

4. Demonstration Clinic; Cancer of the Hand—E. N. Kime, M. D., Associate, Dept. of Medicine, Surgical Anatomy, Physical Therapeutics, Indiana University School of Medicine.

5. Physicochemical Basis of Physical Therapy—R. Beutner, Ph. D., Professor of Pharmacology, University of Louisville School of Medicine.

6. A Newer Conception of the Action of Infrared Radiation in Upper Respiratory Infections—A. R. Hollender, M. D., Instructor in Oto-rhino-laryngology, University of Illinois College of Medicine.

7. Physical Energies in the Diagnosis and Treatment of Cancer of the Breast—A. David Willmoth, M. D., Louisville.

Evening Session (Jointly with the Indianapolis Medical Society, at the Athenaeum)

1. An Electrosurgical Method for Obliterating the Gall Bladder—Max Thorek, M. D., Professor of Surgery, Cook County Graduate School of Medicine; Attending Surgeon, Cook County Hospital; Surgeon-in-chief American Hospital, Chicago.

2. Physical Therapy in the Rehabilitation of the Disabled—John Stanley Coulter, M. D., Associate Professor of Physical Therapy, Northwestern University Medical School; Member, Council on Physical Therapy, American Medical Association, Chicago.

No registration fee. Dinner at \$1.00 per plate will be served at the Athenaeum at 6 o'clock. Cafeteria service at noon at the medical school for visiting physicians and technicians.

#### EDUCATIONAL COMMITTEE

*February, 1934*

Jean McArthur, Secretary

#### NEW PROJECTS

Twenty-five libraries in Cook County have been placed on the mailing list of the committee to receive material suitable for posting on bulletin boards and for reference in clipping and pamphlet files. This service has met with such enthusiastic response by librarians that it is now to be offered libraries throughout the state. An attempt will be made to send out educational articles on health conditions existing at the different seasons of the year. The committee furnished a report of its year's work to the Chicago Health Department to be incorporated with other statistical data

submitted in the Annual Health Contest of the Chamber of Commerce.

Harold M. Camp addressed the Northwest Regional Conference in St. Paul, February 25th. The radio material of the Educational Committee served as the basis for his talk on "Interstate Broadcasting of Health Programs by Medical Societies."

Health exhibit secured from the American Medical Association for the Central Y. M. C. A. of Chicago.

The committee assisted the Illinois Federation of Women's Clubs in furnishing programs and publicity for District Health Institutes.

#### SPEAKERS' BUREAU

Forty-three physicians were scheduled to address lay meetings in Illinois. The following physicians assisted in presenting educational health talks to women's clubs, college students, Rotary clubs, Parent Teacher Associations, Home and Farm Bureaus, Optimist Clubs, Y. M. C. A.'s, Associations of University Women, High School Students:

R. F. Lischer, Harold Swanberg, Gilbert P. Pond, Arlington Ailes, Arthur J. Cramp, W. W. Bauer, J. Roscoe Harry, Alice Conklin, Clarence A. Neymann, Gustave F. Weinfeld, Bertha VanHoosen, C. O. Heindal, Gilbert FitzPatrick, Philip Kreuscher, Oscar B. Nugent, Maude Lee Etheridge, Ralph C. Hamill, W. W. Bauer, Francis E. Senear, Clayton J. Lundy, Hart E. Fisher, W. L. Crawford, Elmer Kenyon, E. G. Barton, C. N. Pease, Edris Rice-Wray, L. A. Crandall, A. S. Hershfield, R. K. Packard, F. Smithies, Kenyon B. Segner, Mary G. Schroeder, N. C. Bullock.

The programs were given by lay groups in the following counties: St. Clair, Macoupin, Cook, Bureau, Kane, Lake, Winnebago, DuPage, Douglas, McHenry, Putnam and DeKalb.

#### PRESS SERVICE

Six hundred and fifty-nine releases to Illinois newspapers:

358—Regular press service.

21—Monthly service.

118—Newspapers, re meeting LaSalle County.

53—Newspapers, re meeting Madison County.

36—Newspapers, re meeting branches of Chicago Medical.

52—Newspapers, re meeting Chicago Medical Society.

3—Association of Commerce, Chicago Medical Society.

18—Metropolitan notices of Chicago Medical Society. Educational articles were written and approved for release on the following subjects:

Cerebrospinal Meningitis.

Care of the Baby in Cold Weather.

Prevalence and Cause of Arthritis.

Obesity and Health.

Lobar Pneumonia.

Amebic Dysentery.

Hand Infections.

X-Ray Examinations.

Leg Pain Caused by Disease of the Arteries and Veins.

Can Heart Disease Be Prevented?



First Aid in Burns and Scalds.

Whooping Cough.

#### RADIO PROGRAMS

Nineteen radio talks were given from stations WJJD, W'GN, WAAF:

H. K. Scatliff—Good Parents and Bad Children.

Earl R. McCarthy—Acute Bone Infections in Children.

H. W. Elghammer—The Nervous Child.

Reinhold Schlueter—My Child Won't Eat.

W. W. Bauer—Can Heart Disease Be Prevented?

C. A. Siler—Amebic Dysentery.

H. P. Sullivan—First Aid in Burns.

M. Reese Guttman—Hoarseness.

M. P. Palmer—Cataract.

W. C. Beck—Leg Pain.

W. W. Patrick—Anemia.

N. C. Geis—Influencing Duration of Life.

Walter R. Fallon—Lobar Pneumonia.

S. A. Levin—Highlights in the History of Obstetrics.

William D. McNally—Poisons Found in Every Day Life.

S. Holtzman—Diseases of the Blood.

Wm. E. Cary—Botulism.

Alfred C. Ledoux—X-Ray Examinations.

John C. Wall—The Common Boil.

#### MISCELLANEOUS

Package libraries furnished doctors and club leaders.  
Radio talks furnished county medical societies and program chairmen of clubs.

Moving picture films secured for lay groups.

Two hundred and twenty postal card announcements mimeographed for First District, Illinois Federation of Women's Clubs.

Three hundred and forty-two double postal card announcements mimeographed for Perry County Medical Society.

Three hundred and sixty-eight double postal card announcements mimeographed for LaSalle County Medical Society.

Twenty-nine announcements sent out for Randolph County Medical meeting of February 15th.

#### SCIENTIFIC SERVICE

Twelve programs given before medical societies:

Sangamon County—C. N. Pease—Injuries to the Vertebrae During Spinal Punctures.

Perry County—R. K. Packard—Surgical Lesions of the Biliary Tract and Their Management.

Scott County, Iowa—Paul B. Magnuson.

Will - Grundy — H. Douglas Singer—Psychiatry; Frank F. Maple—Sterility in the Female; C. A. Aldrich—Nephritis in Children; F. L. Lederer—Otologic Problems in General Practice.

Iroquois—Norris J. Heckel—Diagnosis and Treatment of Prostate Conditions.

Henry County—Moving Picture Films on Diagnostic Laboratory Procedures.

Kankakee—Max Thorek—Treatment of Carcinoma of the Rectum by Electrosurgery.

Paris Hospital—Eugene F. Traut—Arthritis.

Fulton—R. K. Packard—Medical Economics.

#### CONFERENCE OF JEWISH WOMEN'S ORGANIZATIONS

Physicians and their patients are invited to attend the Conference of Jewish Women's Organizations (ninety groups affiliated) meeting at 185 North Wabash Avenue, 22nd floor, on Monday, March 26, at 1:30 o'clock.

The auditorium is to be equipped with bone conduction and air conduction hearing aids furnished through the courtesy of the Sonotone Corporation. In order to plan for adequate service, please advise Mrs. Louis Pelton, the chairman, care of The Chicago Woman's Aid, 185 North Wabash Avenue, as to the number of headphones desired for your guests, and to avoid confusion or embarrassment, kindly suggest that they be seated not later than 1:00 o'clock and hear music while waiting for the business meeting, which begins at 1:30 o'clock promptly.

#### PROGRAM

Dr. Alfred Lewy—Chairman appointed by The Chicago Laryngological and Otological Society on School Survey.

Dr. George Shambaugh, Jr.—Clinical studies of Adult Deafness.

Miss Tessa Golding—Lip-Reading Demonstration.

Mrs. N. L. Noel—Exhibits Occupational Therapy, Beidler School.

Mrs. Clarence Goldman—Haven School.

Under the auspices of the Chicago Woman's Aid in cooperation with the Chicago Public School system, classes in occupational therapy are being held at the Haven School under the guidance of an expert instructor. Members of the Hearing Aids Committee of various groups have pledged to dispose of all articles, proceeds to be turned over to this group of handicapped people. A member of the committee is financing this project until it becomes self-supporting.

#### REPORT OF PROGRESS WOMAN'S AUXILIARY ILLINOIS STATE MEDICAL SOCIETY

MRS. SOLOMON JONES, *President*

To one who has been interested in the Auxiliary to the Medical Association since its introduction into the State, it is gratifying to note the progress from year to year. As we turn back the pages of our history through the past seven years, we rejoice with those who led in the early days—that their work has stood the test of time; that our doctors have encouraged, believed in and trusted us.

Underlying all we do is the objective—the very reason for our existence—"To take an active and intelligent part in all health activities and to promote sociability within the ranks of the profession."

At this time it is fitting to review our progress during the past three months. Cook County, in presenting Dr. Clarence C. Little, Managing Director American Society for the Control of Cancer, to a lay audience at Murphy Memorial Hall, American College of Surgeons, January thirty-first, made a valuable demonstration of what we can do in the interest of organized medicine. It was an enlightened audience that went away from

that meeting. This is the type of work our Public Relations Chairman, Mrs. W. R. Cubbins, is anxious to promote throughout the State.

In December, this Auxiliary gave a successful card party at the Congress Hotel, devoting a part of the proceeds to subscriptions for Hygeia. State and nationwide interest is being shown in Hygeia. The Woman's Auxiliary by contributing subscriptions for libraries and schools is accomplishing much in counteracting the information that is broadcast over the radio, that is given in talks of the cultists, and that is used in advertising all kinds of "remedies" in our magazines and papers. When waiting rooms display the Christian Science Monitor and other literature, should not Hygeia also be available in a conspicuous spot? This important health magazine published by the American Medical Association should be found on reception room tables in all doctors' offices. A physician recently remarked, "Hygeia is the one magazine my patients carry away and forget to return."

The five Auxiliary Branches of Cook County meet regularly each month with excellent programs.

Coles-Cumberland and Douglas County Auxiliaries, though small, deserve credit for giving us annually members of our state board, besides the added honor of having contributed our former state president, Mrs. T. O. Freeman. Both units report that they are having regular reviews of the State Medical Journal, the A. M. A. Journal and Auxiliary News. Thus their members are informed on Food Nostrums, the Editorials of Doctor Whalen, and others.

The Publicity Chairman of Kane County reports a very delightful dinner with the doctors at St. Joseph's Hospital. The auxiliary members then retired to the parlor where a business session was followed by an interesting address by Miss Mary Monohan of the State Home for Girls at Geneva. The Kane County Medical Society meets six times a year. The auxiliary members decided to continue the plan of meeting at the same place and hour with the doctors and have two social and four educational meetings.

Livingston County is one of our new units, little more than a year old, but one of the most active with the distinction of having 85 per cent. of those eligible as members. A feature of their work has been philanthropy. They have helped St. James Hospital in providing a bounteous food shower; also the Chatsworth Library was presented a subscription to Hygeia. Their first president who retired in February writes that she has been happy in the service.

It is highly satisfactory in running through these fine reports to see that our units have endeavored, in spite of the depression, to keep their interest in auxiliary affairs at a high level. Just listen to this: The McLean County unit tells us they had 90 per cent. attendance, and their Publicity Chairman writes: "We are having very good meetings and feel that our members are more interested than ever before." I seem to read between the lines and give much credit for this to their social events happily interspersed with business. Isn't it true,

"If I knew you and you knew me,

'Tis seldom we would disagree."

Now comes Mrs. W. N. Hamilton, newly elected councilor to our State Board, from Marion County, which has the distinction of being the first in Illinois to call together their doctors' wives who agreed it would be fine to know each other better; to exchange ideas common to the physician's wife and establish a bond of true friendship. This they did in 1926. When they learned of the state organization they were quick to grasp the importance of such a movement and are now in state membership with a flourishing unit organized to correspond to the state. That they are a power in southern Illinois is certain.

An interesting Reciprocity Tea was given at the Broadview Hotel, East St. Louis, St. Clair County, to which all doctors' wives throughout the district were invited and also representative members of Women's Clubs and the Congress of Parents and Teachers. To this distinguished group was presented the noted humorist, Dr. R. F. Lischer of Mascoutah. He addressed them on the subject, "The Practice of Medicine from a Humorous Viewpoint." A reciprocity tea attracts the social minded woman. It affords the opportunity to interest every potential auxiliary member and to show them how an authentic medical address can be given to lay groups. In January, the doctors were guests of the Auxiliary at a covered dish dinner. The chairman read from the November State Journal a rescript of the address by Doctor Charles Read on Mental Health in the Home given at A Century of Progress, October 11. The instructive program was followed by a social hour.

The November meeting of the Rock Island Auxiliary was held at the East Moline State Hospital. After a business session the members adjourned to attend the medical society program, Dr. Douglas H. Singer, speaker. The December meeting was held at the Rock Island Sanitarium. A feature writer, formerly of the New York Times addressed them. This County, one of the first organized in our State, is busy planning constructive programs.

In Sangamon County as an outstanding feature of its program active cooperation is given to the Tuberculosis Seal Campaign. Two members were elected to officially represent the Auxiliary. At their January meeting, Dr. A. E. Walters spoke briefly regarding arrangements for the State Meeting to be held in Springfield May 16, 17 and 18. Dr. O. T. Maxon, General Chairman of Convention Arrangements, also spoke briefly saying that he wished to cooperate fully with the Auxiliary in perfecting plans for the convention. A group of delightful readings by Mrs. Clarissa Hagler Jorgenson, daughter of the president, closed the interesting session.

We, the Auxiliary members of Illinois, thank you, Doctors Walters and Maxon, for telling us of these plans. We are eagerly looking forward to the convention and are working to contribute our part to the success of this meeting. From our county reports we are encouraged to believe our auxiliaries are planning to send their full quota of delegates and we do hope to see many new interested faces.

My own county Auxiliary, Vermilion, through the



Program Chairman, Mrs. A. E. Dale, formerly of the state board, has striven for two objectives throughout the year, an informed and a participating membership. Before the year closes every member will have had a part in program service. In January, the A. M. A. leaflet, "The Dog's Gift to the Relief of Suffering," was reviewed. This gave us a clearer understanding of Dr. Dean Lewis' inaugural address at the A. M. A. meeting last June in Milwaukee when he told us that if the Woman's Auxiliary did nothing more than to enlighten members of Women's Clubs of the absurdity of allowing emotional sentiment to hamper scientific medical research through their endorsement of Vivisection Societies, the existence of Auxiliaries would be justified. We, therefore, voted to distribute these leaflets to Women's Clubs throughout Vermilion County.

From Will Grundy we hear that Dr. D. W. Killinger of Joliet honored the Auxiliary by an address in which he emphasized the position of medical men in regard to welfare work and free clinics and told the importance of being informed on legislative matters pertaining to the profession. On January 3rd, a New Year's Tea was given at the home of one of the members. It was a lovely social affair with a New Year's message of good cheer from the president. The February meeting was a "Public Relations Day." The Chairman presented Dr. Andrews, City Health Commissioner, Dr. Bowles, member of the High School Board, who spoke on Health Activities in the Joliet High School, and Mrs. L. F. Kuick of the Public Health Council.

How happy I am to close this report with mention of our new unit, Saline County, which was organized on January 16, 1934, under the direction of Mrs. E. W. Burroughs, Harrisburg, Council of the Ninth District. Doctor Burroughs, president of the County Medical Society, has given full support to the Auxiliary president, Mrs. J. V. Ferrell, of Eldorado, by appointing an Advisory Committee to assist them.

Some one recently remarked to me, "If we could get all of our doctors' wives together for one evening that would be something." I hold that an informed member willing to try, could accomplish that very thing and they would like it. May I repeat that I have supreme confidence in the physician's wife wherever she is. Once she becomes familiar with the purposes and plans of our Auxiliary she will be quick to lead her husband to a sympathetic understanding and together they will take their rightful place as leaders in all health activities in the community.

In every county organized, outstanding women thoroughly conversant with the policies of organized medicine have come forward. That there will be many more is certain. Our hope is that physicians throughout the state may come to believe with Dr. R. R. Ferguson, Chairman of our Advisory Board, who stated in his address before the Woman's Auxiliary of the Chicago Medical Society that "County Medical Societies need us." Copies of Dr. Ferguson's address may be secured from the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

## HYPOCALCEMIA: ITS RELATIONSHIP TO MIGRAINE

G. F. Norman, Eureka, Calif. (*Journal A. M. A.*, Feb. 17, 1934), states that a few of the cases usually classified as migraine with respect to blood calcium determinations exhibit degrees of tetany varying from mild, almost imperceptible clinically, to severe. Hyperventilation in a few mild cases induced tingling of the extremities and occasionally a positive facial phenomenon. These conditions were quite constantly associated with low determinations of calcium in the blood. It is not assumed, however, that all cases of migraine exhibit these phenomena. As a matter of fact, cases of frank operative tetany that have been observed do not exhibit the characteristic migraine symptomatology. Numerous cases are apparently associated with disease of the biliary tract. However, the failures of surgery on this system to relieve the unilateral headache are only too well known. The question is raised whether or not the biliary disturbance depresses the calcium regulating mechanism or, on the other hand, that the calcium disturbance alone favors pathologic changes in the biliary system. For this complex the author proposes the term "migraine-tetanic syndrome" conforming to the idea that a degree of hypoparathyroidism exists and that the latter condition exists more frequently than is generally accepted. He assumes that symptoms of migraine and tetany are maintained dormant in this group by the calcium regulating mechanism. One or the other complex may predominate. Whether unilateral headache and nausea with or without vomiting should be included in the picture recognized as tetany remains for further study. He observed about seventy patients complaining of periodic headaches associated with nausea and vomiting, and most of them have been improved by the oral administration of viosterol or the parenteral administration of potent parathyroid extracts.

## DINITROPHENOL: ITS THERAPEUTIC AND TOXIC ACTIONS IN CERTAIN TYPES OF PSYCHOBIOLOGIC UNDERACTIVITY

Jules H. Masserman and Harry Goldsmith, Baltimore (*Journal A. M. A.*, Feb. 17, 1934), studied the pharmacologic and psychotherapeutic effects of sodium dinitrophenol in eighteen patients whose psychobiologic status was characterized by sluggishness, passivity and apathy. In therapeutic dosage the drug caused a mean rise of  $32.9 \pm 3.31$  per cent. in the rate of oxygen consumption and a mean weight loss of 0.92 pound (417 Gm.) per week. Toxic effects occurred in five cases and were characterized by a fall in blood pressure, tachycardia, acidosis, progressive stupor and one death. Intermediate or adverse psychotherapeutic effects were observed in eight and four patients, respectively, while six patients showed a definite improvement in their mental state, apparently attributable to the medication. Dinitrophenol is therefore unpredictably toxic to some patients, but its careful administration may be of empiric benefit in certain types of recent and insecurely established psychobiologic underactivity.



## Original Articles

### ACUTE INTESTINAL OBSTRUCTION, MECHANICAL IN TYPE, OF THE JEJUNUM AND ILEUM\*

WM. R. CUBBINS, B. S., M. D., F. A. C. S.,

CHICAGO

and

AMOS FEY, B. S., M. D.,

GALESBURG, ILLINOIS

From the wards of Cook County Hospital and the Surgical  
Department of Northwestern University, Chicago.

In this paper we find that it is essential to exclude any obstructions of the great bowel, because these cases, as a rule, are different, although one can and does occasionally have an acute intestinal obstruction from a malignancy in the large bowel which simulates an obstruction of the small bowel. We wish to make an etiologic classification of acute mechanical obstruction, because many papers have been written in which the etiology is considered from pathologic, etiologic, and symptomatic standpoints.

Ten years ago one of us wrote a paper which was never published because at that time an enormous amount of experimental work in relation to the chemical changes of the blood, the putrefactive and toxic changes in the contents of the proximal bowel and in the obstructed loop were being considered from an experimental standpoint in the lower animals, and we thought that these things might serve to change our opinions as to the conclusions to be drawn from clinical cases. Such, however, has not been the case. There have been very few, if any, things of value obtained from experiments in intestinal obstruction in relation to treatment. The problem remains exactly the same as it has been during the past forty years, in that the obstruction must be relieved in the great majority of cases in order to save the life of the patient. A few moribund cases have been saved by the judicious use of an enterostomy. On the other hand, it is our belief, and the clinical reports seem to support this belief, that an enterostomy is far from possessing the great value that has been ascribed to it by some authors. We are certain of one thing and that is that if one has a strangulated loop of bowel in danger of perforating, an enterostomy

proximal to it will not be an insurance against its perforation and rupture into the belly. We are also relatively sure that if an enterostomy is made it must be made with a large tube in the bowel near the obstruction, in order to contribute the maximum degree of benefit, always keeping in mind that as soon as the general condition of the patient improves and there is no passage below the ileostomy or jejunostomy, some effort must be made to free the strangulated loop.

Heretofore, many authors have held that an ileostomy or jejunostomy have been of life-saving value. This we have never believed and the results of our research have shown a higher mortality with either an ileostomy or jejunostomy than with a resection. Where a resection of an intestine is absolutely necessary, the mortality due to exhaustion, infection, failure of the sutures to hold, necroses of the bowel and subsequent obstruction, is about fifty per cent. even in the most competent hands. However, this mortality is less than that following the injudicious use of enterostomies of any kind.

The etiology of intestinal obstruction may be divided as follows:

1. Mechanical
  - (a) Previous abdominal operations
  - (b) Hernia
    - Femoral-Inguinal-Umbilical-Internal
  - (c) Previous diseases
    1. Salpingitis
    2. Appendicitis
  - (d) Vestigeal Remnants
  - (e) Tumors of Female Genitalia
  - (f) Rotation Obstructions
  - (g) Foreign bodies
2. Intussusception with or without pedunculated tumor
3. Dynamic or Spastic
  - (a) Lead
  - (b) Tyrotoxicosis
  - (c) Tabes
4. Adynamic or Paralytic
  - (a) Embolus
  - (b) Thrombosis
  - (c) Peritonitis

First, we have the great group of common causes and do not consider the great number of large external herniae concerning which there is no doubt, but the little hidden masses that are so commonly overlooked. Intussusception ranks second; dynamic or spastic third; adynamic or paralytic fourth. We do not class as paralytic a distention of the abdomen with tinkling sounds. To us paralytic ileus means an absolutely silent

\*Read before Section on Surgery, Illinois State Medical Society, at Peoria, May 17, 1933.

bowel caused by a general peritonitis, embolus of mesenteric artery, or a thrombosis of the deep veins. The conditions so commonly called paralytic ileus with marked distention following some abdominal attack, we are firmly convinced is due to a mechanical obstruction in the great majority of cases. This mechanical obstruction is caused by a fibrinous adhesion with kinking of the bowel, and we are convinced that many of these free themselves, allowing the passage of gas, and we doubt that the bowel has ever been truly paralyzed, except for the temporary paralysis due to excessive manipulation.

*Pain:* Pain is always present when there is an obstructed bowel in an individual whose nervous system is normal. Its character varies with the amount of bowel that is blocked and the firmness of the constricting band; that is to say, with a large loop of bowel and its mesentery in a firm band, there is severe and agonizing pain which will frequently cause shock, collapse and, possibly, death. If we have a smaller loop, pain is sharp and severe, usually around the umbilicus and it is more or less constant, being aggravated by the struggling bowel and slightly lessened when the bowel is quiet. Pain is also apparently lessened when the enclosed loop loses its vitality and increases to a violent condition when the gangrenous loop ruptures.

*Nausea and Vomiting:* Nausea and vomiting are always present. The stomach contents are followed by a greenish material and, later, by a brown, foul-smelling material that is characteristic of a neglected bowel obstruction. Some authors state that the presence of this brown, foul-smelling material is ante-mortem. Such is not the case, but where it is present there is certainly a 50 to 60 per cent. mortality.

*Constipation:* Constipation, that is, a failure to pass feces or gas, is absolute in a complete obstruction after the lower bowel has evacuated itself due to the shock of onset, or with enemata. We have seen one case that was operated upon within two hours of the time the nurse reported a bowel movement and gas, in which there was a point of necrosis in a strangulated loop of jejunum, but we had no history of any previous evacuation of the bowel, either with or without enema following the onset.

During operative procedures we have never

observed gas to be present in the bowel of the human animal distal to a complete obstruction.

*Tenderness:* The abdominal findings show a tenderness that is usually present over the point of obstruction. This tenderness usually increases the longer the obstruction remains without relief. It is less easily detected in a large, thick abdomen, but has been uniformly present in our series of cases in moderately sized or thin individuals.

*Distention:* Distention varies with the position of the obstruction. One can have a complete obstruction high in the jejunum with the



Fig. 1. The bowel is shown grasped with a gauze sponge held between the thumb and index finger of an assistant, because forceps of any kind are contraindicated. The oblique incision across the bowel and mesentery is necessary to obtain a direct blood supply to the free border. That portion of the mesentery with damaged or thrombosed vessels must be resected also.

scaphoid abdomen. As a rule the distention increases with the duration of the obstruction, but there is no question but that it can be decreased by excessive vomiting and thorough gastric lavage; however, the distention that follows a perforation of the gangrenous loop of the proximal bowel cannot be relieved except by an incision in the abdominal wall.

*Gurgling:* Gurgling of a sharp metallic type in the presence of the other symptoms is highly suggestive and, if it continues without the pass-



age of gas, is an indication for an operative attack. In only one case have we observed gurgling to be absent and that was in a strong, husky young prize fighter with an obstruction that had endured 48 hours and was secondary to an acute suppurative appendicitis. No sounds were heard over his belly and at the operative attack there was very little distention of the proximal bowel, but the bowel was thickened, reddened, and muscular. Obviously this is a very unusual case and it is the exception that frequently proves the rule.

*Visible Peristalsis:* Visible peristalsis is normally present in individuals with thin or lax abdominal walls. In cases with obstruction, this peristaltic action is markedly increased. Peristalsis may show through a firm muscular ab-

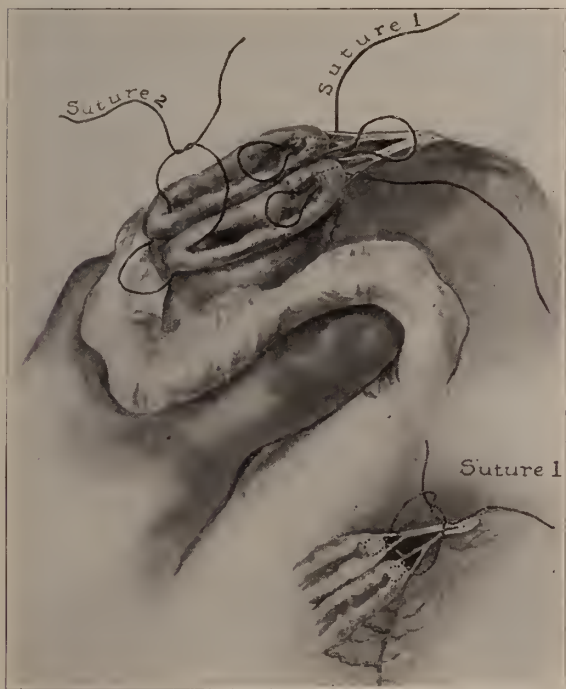


Fig. 2. Demonstrates the closure of the mesenteric border and the triangle. When tied this suture, if placed as illustrated, lessens the danger of perforation at this point. The suture in the free border has also been inserted so that there will be an approximation of the peritoneal surfaces.

dominal wall where there has been a partial obstruction present long enough to give a marked hypertrophy to the proximal bowel.

A scaphoid abdomen must be carefully inspected with grave suspicion as to the presence of

tabes, lead poisoning, or food poisoning. High jejunal or pyloric are the only obstructions from which these three conditions must be differentiated, and these types of obstruction are not common.

*Leukocytosis:* There has been a vast amount of discussion concerning the number of leukocytes found in cases of intestinal obstruction. There is no question but that in the beginning there is little, if any, increase in the leukocytes, but at a later period, following nausea, vomiting and dehydration, there is no doubt about there being a marked increase in leukocytes. We have had quite a few cases with 20,000 leukocytes and two or three with more than 30,000 leukocytes, in which there had been no perforation and no evidence of any other inflammatory area in the patient.

*Temperature:* The temperature varies from 97 or lower in the early shock of a massive complete obstruction, to 103 in cases where no inflammation or perforation can be demonstrated. We are firmly convinced that Donald K. Bacon and his collaborators were absolutely correct when they stated that the dehydration caused by vomiting could produce a marked temperature rise, as well as a marked rise in the non-protein nitrogen content of the blood, and a decrease in the chlorides and other essential salts.

*Pulse:* The pulse varies greatly. In the beginning of a small obstruction, which is relatively loose, one may find a slow pulse until dehydration supervenes. But if there is a mass of bowel and mesentery constricted in a firm band, the pulse becomes rapid, either immediately or in a very short while, and is followed by shock and collapse.

*Skin:* The skin shows little, if any, changes, except in those cases of shock, when it is moist. Later, however, the skin becomes dry. The mucous membrane of the tongue and lips is dry, cracked, and frequently very much irritated by the material vomited. Cases that reach this stage are always in serious condition, need fluids immediately, and an early surgical attack is indicated.

*Morbid Anatomy:* In a true acute intestinal obstruction, the proximal bowel is nearly always distended, thickened, reddened, and late in the attack, somewhat granular. If this type of



bowel is not seen upon entering the abdomen, no obstruction is present. The abdominal cavity always has an increased quantity of serous fluid present in all true cases of obstruction, and we believe that this fluid is put out by the peritoneum as a lubricant to aid the struggling bowel.

The distal bowel has been uniformly pale, pink, contracted, and in none of our cases has gas of any type been observed within its loops. The strangulated loop may show in color a dark red, a dark blue, or a dark, greyish, gangrenous purple. The gangrene or pressure necrosis occurs most commonly at the point where the proximal loop enters the strangulated area and is probably caused by the struggles of the proximal bowel in its effort to free itself from the obstruction. With an anemia due to the pressure of the band and the distention of the loop, an area of necrosis at the distal portion of the obstruction may be present, but as a rule it is only in a late case and the time that is necessary to elapse between the occurrence of gangrene at the proximal end and gangrene at the distal end, we have not been able to determine.

The mesentery is frequently discolored and its veins thrombosed. If the thrombosis in these vessels can be definitely outlined with the palpating finger, the mesentery must be resected up to the point where it has been strangulated or there will be grave danger of pulmonary emboli, either at the time of operation or shortly afterward. This condition has been the cause of death in two of our cases. One of them in a child that was operated upon five hours after the diagnosis of an ileal intussusception had been made. We are of the opinion that the failure to observe these thrombotic changes in the mesentery where the bowel has been resected and the mesentery not resected has resulted in many fatalities, such as sudden death, or in pulmonary complications with pneumonia.

*Complications:* The changes that may follow any type of operative attack upon an obstructed bowel must be carefully considered and many of these things must be expected. The first is a recurring obstruction from a fibrinous adhesion at or proximal to the spot where the bowel has been freed from its obstruction or a resection made. These are far more common than the average

surgeon believes. The second complication is an abscess from a secondary perforation in either a resected or non-resected bowel. A hemorrhagic diathesis has been observed in one case with rapidly forming petechia and this was immediately relieved by a blood transfusion. We wish to emphasize that this case of petechal hemorrhage recovered and that cases in which this condition appears should not be regarded as hopeless.

*Differential Diagnosis:* The differential diagnosis lies between many different conditions. It can be simulated by a torted ovarian cyst, renal colic, acute appendicitis, gall stones, acute pancreatitis, torted spleen, tabes, lead poisoning, food poisoning, and pneumonia, to mention a



Fig. 3. Here suture No. 1 is shown to have approximated and obliterated the triangular space at the mesenteric border. The suture on the free border has been tied, approximating the peritoneal surfaces, and sutures one and two are used as guy ropes to facilitate the application of the suture.

few. The cardinal symptoms and physical findings of these other conditions must be carefully considered in relation to pain radiation and point of tenderness, with the history of onset and sequence. In tubes one must be absolutely certain of the nervous system, even down to points of anesthesia around the nipples, loss of sensation in the testicles, and the slightest variation in the pupillar reaction. In lead poisoning, blood stipules and the line that shows in the gums

must be carefully sought for. In food poisoning I am not certain of any diagnostic sign and I have seen only one case of this type in which there was pain, nausea and vomiting with a scaphoid abdomen, and no evidence of any change in the nervous system. If the abdomen is scaphoid, high obstruction, tabes, lead and food poisonings must be considered with great care. We have seen two individuals who were able to produce a marked distention with nausea and vomiting without any real obstruction being present. One of these cases has been operated upon nine times; we officiated at two of these operations, the fifth and ninth, and at neither of these was there any real obstruction present. The other case was in a woman who was addicted to acentanalid tablets. We operated upon her only once, but she subsequently had a colon resection

tion, I do not know how a diagnosis can be made.

*Operation:* We are firmly convinced that an early operation is imperative, because of the utter inability of any one to determine the extent of the insult to which the strangulated bowel is being subjected, and the absolute certainty that when it is necessary to do any kind of a resection the mortality will lie between 50 and 60 per cent. We are also convinced that when in doubt as to whether there is or is not a partial obstruction, an exploratory operation is indicated, because a partial obstruction can be freed with a danger of not more than one-half to one-third of one per cent. Whereas, when a complete obstruction supervenes the mortality rises anywhere from 10 to 70 per cent. It is our opinion that in the partially obstructed type of case, where one is in doubt, an exploratory operation is fully justified. And if this is done more frequently, we will have a much lower mortality in the records of our general hospitals. We feel that it is absurd, when there is a grave doubt as to whether there is a complete or partial obstruction, to delay until a complete obstruction occurs or is proven to be present.

*Preparation for Operation:* Keep the patient warm. Use any anesthesia you choose, but with great distention we prefer ether and morphine above all other anesthetics, because of the fact that the narcosis is easily induced and there is a distinct stimulation with this anesthetic. There is no chance of a rigidity and, all in all, it has been the safest anesthetic in our hands, because with this anesthetic carefully given to complete relaxation, there is no danger of evisceration and no need to pack the abdomen full of sponges. We have not had enough experience with spinal anesthesia in this type of case to give an opinion regarding it. However, as most of the individuals suffering with intestinal obstruction and great distention have a low blood pressure, we are convinced that this anesthesia should be used with extreme care in order to avoid a lethal outcome. The stomach should be evacuated and washed out with a saline solution of about 100 degrees temperature. Cool fluids should not be used. The extremities should be bandaged to support the circulation in exhausted patients. Ringer's solution sub-cutaneously, and Ringer's solution with five per cent. glucose, intraven-

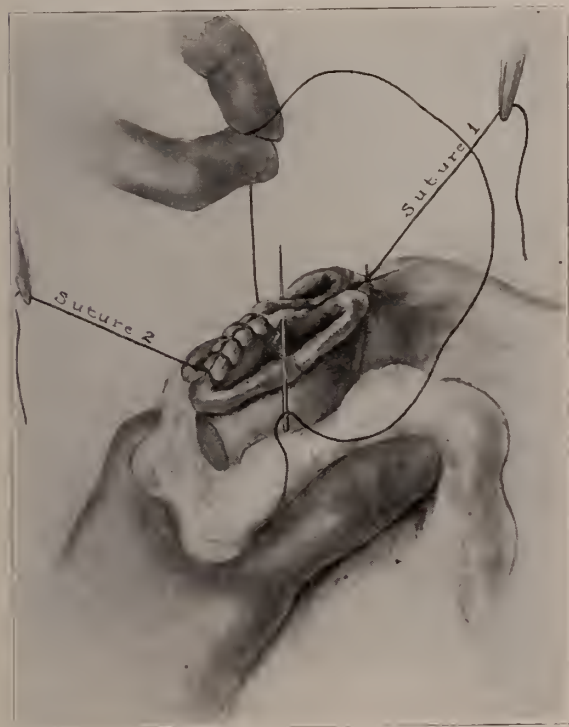


Fig. 4. The primary suture is taken and here is illustrated as being over and over. A Cushing stitch may be used, provided one back stitch is taken to avoid slipping and narrowing of the lumen.

by another surgeon; in this resected colon no pathologic changes were found. In these cases vomiting was profuse and every symptom present that one would expect to find in an intestinal obstruction. Aside from an exploratory opera-



ously, should be administered simultaneously. 8,000 to 10,000 c. c. of Ringer's solution or normal salt solution, combined with five per cent. glucose, can be given intravenously every 24 hours; this is certainly the greatest means of prolonging the life of these individuals of which we have any knowledge.

*The Incision:* The incision is made as indicated by the findings. When in doubt the best position is in the mid-line below the umbilicus, and of sufficient size to enable the operator to work through carefully, but not so large as to permit evisceration. By all means, the first thing to be done is to find the obstruction, or, if that is not possible, find the distal collapsed loop of bowel and trace it to the obstruction. The mauling and handling of the distended loop requires a long period of time, is made only with great difficulty and, in our opinion, will produce marked shock in a very short while. The other method of finding the mass or the collapsed loop is far simpler and infinitely safer. Evisceration must be avoided at all costs, because, in spite of covering these distended loops with hot towels or other foreign bodies, the blood passing through such a thin membrane is chilled, returns to the liver and causes immediate shock, which may be so severe as to cause death upon the table or immediately after the patient has been returned to his bed. The packing of many towels or sponges into the abdominal cavity of these cases is severely deprecated. The great majority of them can be handled without the use of such a procedure. If possible, free the obstruction down in the cavity and deliver the point of obstruction with small portions of the adjacent bowel for careful inspection as to the presence of gangrene, thrombosis of the mesenteric veins, or any injury that would indicate a resection. During this inspection only a small portion of the proximal bowel must be allowed to extrude. (Hot sponges cannot take the place of the warm body.) If there is a small area of necroses it may be covered with fine interrupted silk sutures. If, however, there is a large area of necroses, a resection is, in our opinion, indicated. In accomplishing this resection, you may use a lateral anastomosis, folding in the ends and making the union, or do as we have illustrated in this paper, an end-to-end anastomosis with the Connell method, modified by Cubbins and Marvel. We feel sure that

a clamp upon the proximal portions of an obstructed bowel is certain to be followed by gangrene and, if an anastomosis is to be done with any expectation of success, no clamp of any kind can be used, owing to the fact that this reddened, swollen and inflamed proximal bowel is very delicate and gangrene will occur at or distal to the point of pressure. After making an end-to-end anastomosis, as is indicated in the illustrations, we use interrupted Cushing stitches to reinforce the line of suture and, if possible, we wrap this loop in the tip of the omentum and leave it close to the abdominal wall. This resected mass is left near the wound in the anterior abdominal wall, because if there is to be a rupture following the procedure it is the safest place for it to be. And, should a fistula occur, it will close itself in a short while. The wound is closed without drainage. The stomach is washed again and, if

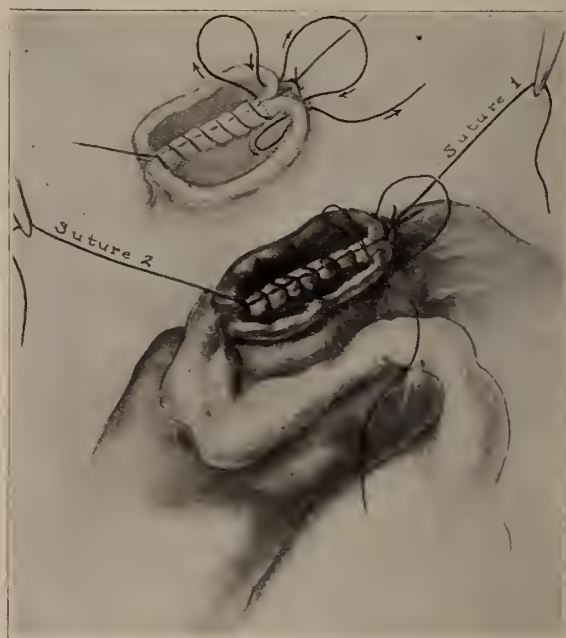


Fig. 5. This illustrates exactly the method of going, first outside, then back, in and out, so that when the suture is pulled taut suture No. 1 may be cut and the bowel automatically folds in at the mesenteric border. This suture is then held taut and it, with the one in the free border, continues to hold the bowel stretched in position for stitching.

the patient is very toxic and a donor is available, a transfusion can be made.

We feel that the procedure here outlined is much safer than the double-barrelled fistula,



where the necrotic loop is brought out of the abdominal wall and the fistula closed at a subsequent operation. It is folly to think that the secondary operation for the closure of this type of fistula is not fraught with serious danger. It is our opinion that it will carry pretty close to 25 to 30 per cent. mortality, as one may have ulceration of the abdominal wall, emaciation and loss of strength during its period of function. However, if one is forced to make this type of fistula, a tube should be put into the proximal bowel about three inches deep and connected with a bunsen pump, in order to prevent the irritating intestinal contents from digesting the abdominal wall.

We have never seen any ill effects from allowing the contents of a strangulating loop that was not gangrenous, or the contents of the proximal bowel, to pass into the distal portion of the

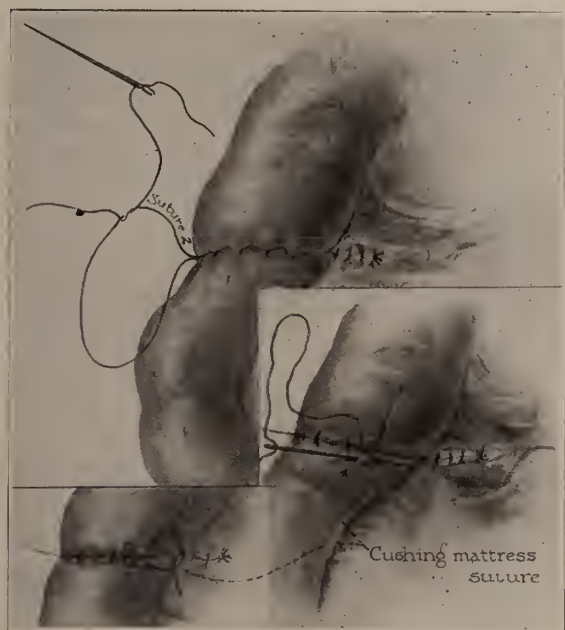


Fig. 6. Three illustrations, in the first of which the primary suture is finished and tied. No particular effort is made to have the knot inside the lumen. The other figures illustrate how this continuous stitch is reinforced with interrupted Cushing stitches, which cover the entire surface of the bowel, down on to the mesentery, care being taken not to include any blood vessels.

bowel; and, as has recently been shown in the experimental animal, the contents of the obstructed bowel may be taken as a vomited solution, or aspirated from the bowel and passed into the distal bowel without ill effect.

We have not made it a rule to evacuate a bowel proximal to an obstruction, but in certain cases we have used this procedure and in other cases we have used a proximal enterostomy with a tube of lumen about one-quarter of an inch in diameter. Of the two procedures, that is, evacuating the proximal loops or making a large enterostomy proximal to the reunited bowel, we feel that the enterostomy is far the safer procedure. Following the operation just as much Ringer's solution or normal salt solution, with five per cent. glucose, should be put into the veins as the patient can stand. And please do not fail to remember that subsequent obstructions, perforation, and abscess formation are extremely common following a resection of the bowel or the replacement of an injured loop that has not been resected into the belly. When these complications occur, it is our opinion that it is absolutely indicated to reopen the abdominal cavity, either through the original incision or a new incision, in order to determine the exact cause of the complication. At this secondary attack one may evacuate the abscess that has formed around a ruptured resection or injured bowel, and still be able to save the life of the individual. Too many times we hesitate about a secondary attack in this type of case, where the secondary attack would avoid a fatal outcome.

#### *Intestinal Resection*

Connell Method, modified by Wm. R. Cubbins and W. J. Marvel

#### DISCUSSION

Dr. A. W. Christenson, Rockford: These very interesting papers make us realize:

1. That the life of a patient with an abdominal pain often depends upon the time that has elapsed from the onset until seen by the Doctor.

2. Upon the ability of the first Doctor to recognize surgical emergencies, or conditions demanding immediate or early operation such as acute or ruptured appendix, perforations of hollow viscus due to gastric, duodenal, jejunal or ulcers at any point in the gastro-intestinal tract, or perforation of any hollow viscus, or rupture of an intra-abdominal organ from other causes or other conditions such as intestinal obstruction, acute or hemorrhagic pancreatitis.

Perforations with their sudden severe pain, immediate board-like rigidity gradually spreading as peritonitis spreads must be differentiated from severe abdominal pains or gastric crisis occurring sometimes in coronary sclerosis, tabes, lesions of the spinal cord, and poisons. Spider bites have caused symptoms of a surgical abdomen with extensive peritonitis.

The appendix is probably the surgeon's best intra-abdominal friend. It is usually easy to get at, adds to his income, and fortunately most cases have the cardinal symptoms. Pain, first diffused over abdomen with vomiting, later localized with tenderness and rigidity in region of appendix, with slight rise in temperature, white blood count, and polymorphonuclears. When we have this picture we think we are sitting pretty.

But we must not forget that we may have all of the classical symptoms of appendicitis due to non-surgical conditions such as intra-peritoneal lymphadenitis in

1. Early pneumonia.
2. Following sore throat.
3. In acute infectious diseases especially in childhood.
4. Right salpingitis.
5. Stone in right ureter without pus or blood in urine due to complete block in ureter may also resemble appendicitis. Rectal and vaginal examinations are of value.

While we admit this is true we must bear in mind that we may have an acute retrocecal appendix which may perforate and kill with all of the symptoms referred to

1. The epigastric region.
2. The gall bladder.
3. The back in region of right kidney with very little or no tenderness over appendix area until after perforation, causing spreading or probable fatal peritonitis.

The appendix may also be found on the left side or in the pelvis, thus completely changing the picture.

The secret of a low mortality in surgery is an early diagnosis and to operate at the proper time. Perforations of hollow viscus or rupture of intra-abdominal organs or intestinal obstruction demand immediate operation. There should be practically no mortality from an appendix if it is removed during the quiescent period or before it becomes gangrenous and perforates.

Dr. Murphy told us to try and get at the appendix if it is abscessed from externally so as not to contaminate the peritoneal cavity. I believe this is one of the greatest life saving methods and can be carried out in a great many cases. Frequently an abdomen is opened and a walled off abscessed appendix is found that can be reached by stripping the peritoneum from the side of the abdominal wall so that it can be drained through a stab wound extra-peritoneal and drains inserted. Thus the peritoneal cavity is not contaminated.

So much for the cases considered so far. How about the neglected surgical patient that comes in with abdomen distended and tense, pulse rapid, temperature elevated, frequent vomiting, dehydrated, and tongue dry? If it is due to peritonitis following a ruptured appendix, immediate surgery is out of the question. In this type of a case the mortality is very high whatever treatment he gets, but he is going to die sure if his abdomen is opened at this time. Experience has taught us that the best chance for recovery in this type of a case is if he is given:

1. Absolute rest in bed with head of bed elevated.

2. Morphine  $\frac{1}{4}$  grain every 1 to 2 hours until absolutely quiet and then  $\frac{1}{6}$  or  $\frac{1}{4}$  grain every 2 to 6 hours as needed to keep quiet.

3. Normal saline 1000 c. c. with 100 c. c. 50% glucose subcutaneously every 6 to 8 hours.

4. 5% glucose solution intravenous constant drip until fluid balance is restored, and then about 3 to 4000 c. c. every 24 hours subcutaneously.

5. Constant moist heat to entire abdomen.

6. Nasal tube to allow stomach to empty and lavage. The tube may be left in 24 to 36 hours at a time or longer if necessary.

7. Digifolin 3 c. c. q. 3 hours if pulse is rapid until digitalized or pulse goes down to 110.

8. Absolutely nothing by mouth only hot liquids during the time that the nasal tube is in the stomach so it can drain back.

If we follow this line of treatment and carefully watch patient—frequent examinations rectal, vaginal and abdominal—once in a while we will be surprised to see one of them come out of the woods. An abscess may wall off in the peritoneal cavity so that it can be drained preferably extra peritoneal as Dr. Murphy said or even through the rectum or vagina.

We have a man in the hospital at present in whom an appendiceal abscess perforated into the bladder and large amount of foul purulent material drained through a retention catheter that was inserted through his urethra into the bladder. A short time ago we were able to drain an appendiceal abscess through the rectum. This man has recovered and the man with the drainage into his bladder is going to get well as he is up and around at present. I am sure that both of these patients would have died if we had opened their abdomens at any time that we had them under our care as they both had extensive peritonitis when they came under our care at the hospital.

Dr. Cubbins said we should operate on the obstruction cases before they were completely obstructed. That is true, but most of the cases that come under our care have been obstructed for some time, and just how long the obstruction has been complete is hard to tell. The nurse may tell you that some gas and fecal matter was passed with an enema and the patient may tell you that he was relieved, which if you are not on your guard, may have a tendency to throw you off from the right track. But, keep in mind that the higher up the obstruction the more deadly, and the more bowel there is below the obstruction the more fecal matter and gas can be found by enema after complete obstruction.

It is claimed by some that by giving the patient a spinal anesthetic it will help relieve the obstruction. Our results have not been good along that line. I do believe that spinal anesthesia gives very good relaxation, and that it is of value as it has a tendency to make the bowel empty, if the patient is not too bad; we have all seen cases of obstruction that were operated on under spinal anesthesia have an evacuation on the table after the obstruction was relieved.

Dr. E. P. Coleman, Canton: Up until about eight



or ten years ago acute intestinal obstruction was more or less a stepchild of abdominal surgery. No one wanted it, no one wrote very much about it, and there was not a great deal in the literature about the subject. Since the work of Haydn and Orr more interest has evolved, and while their original conclusions have not been upheld, it has served the purpose of stimulating interest. I was one of those who was very much impressed by Haydn and Orr's early statistics. I tried it out in a small series of cases. That series would not compare with the large series given by Dr. Cubbins and Dr. Fey. I had a small series of 20 cases with a mortality of ten. I was then under the impression that the surest way for a patient to commit suicide was for me to operate on him for intestinal obstruction. I changed my mind and then later came back to my original opinion. After reading Haydn and Orr's paper I began to look for intestinal obstruction cases. I developed a second series of 22 cases and the mortality dropped to 11.5 per cent., although, as I now see it, there was undoubtedly a great element of luck in that mortality. As soon as the case was diagnosed, the abdomen was opened and the obstruction relieved as much as possible where it seemed feasible. Jejunostomy was done in some cases and I believed I saved a few lives by so doing. With the mortality cut down to 11.5 per cent. I thought the problem had been solved and then I began to wait. If there were some doubts about obstruction developing I began to wait to be more certain of the diagnosis. Then the mortality immediately jumped to 35 per cent. That gave me one lesson. In hunting obstruction I made an early diagnosis and after all the whole question is one of early diagnosis and not a question of what treatment you use. The treatment is self-explanatory.

There are two or three problems to be met. The first, of course, is early diagnosis. When a case is brought in from the outside with the obstruction well developed, it is quite easy to say if the man who first saw the case brought it to you early, the patient would have gotten well. What about the case that develops in the hospital on your own service and is not operated on at once? I have had that happen and have seen it occur elsewhere. Dr. Collins made the statement some years ago, if he had an obstruction develop postoperatively on himself, he would want someone else to see him besides the original operator. We are inclined too much to lavage the stomach, put in a duodenal tube and waste time in the case we have operated on and which later develops obstruction. In too many instances the patient will not survive but could be saved by an early, secondary operation. I do believe that the free use of fluids, salt and glucose, are of considerable help. I think some of these cases with obstruction which is relieved will go ahead and die in a few hours. If they could be made to live a few hours longer they might get well. I am sure with the free use of glucose and salt this can be accomplished in many cases; at least that has been my experience.

With regard to the treatment used in this small series of cases, I thought it best to relieve the obstruction

whenever possible. Once in a while the patient will be so sick or so nearly "all in" that you cannot do much, in which case we are justified in taking a chance on doing a high jejunostomy. Occasionally that patient will live long enough to get into better shape and then you can go in and complete the work. I believe the best thing is to do as complete an operation as you can within as short a time as possible.

A word concerning anesthesia. We all tend to go from one extreme to another, but I think probably the use of spinal anesthesia is the safest. I have used it in quite a number of cases with almost uniformly good results. These patients do not eviscerate themselves because they cannot. It gives a fine anesthetic. I have not seen where low blood pressure, unless too low, makes any difference. That may be just personal experience. I believe it is the safest anesthetic to use at this time.

Dr. C. U. Collins, Peoria: I was glad that Dr. Murphy mentioned the Schilling differential count in the diagnosis of appendicitis. There is no doubt that those cases in which infection is virulent and the system is overwhelmed with toxins and the leucocyte count is low, the operator will be misled unless he makes a Schilling differential count. It will do more to tell you how the patient will react than anything else. If the index goes down to 0.6 or 0.4 you will know that the patient will not do so well. If the index goes to 0.8 or 0.10 you will know the patient is going to get well.

With regard to obstruction, Dr. Coleman, Dr. Cubbins and Dr. Fey said the earlier the diagnosis is made the better for the patient. I think that is true. There are five cardinal points to be remembered. First, pain; second, obstipation very persistent; third, peristalsis that can be seen, felt and heard; fourth, vomiting, becoming fecal; and fifth, tympanites with great distention. I think the surgeon who waits for the vomiting to become fecal with great distention will have a high mortality. That is like watching a carcinoma of the breast until everybody is satisfied it is a carcinoma and then it is too late.

There is one point I want to leave, that these patients get worse very rapidly. If obstruction is suspected the patient should be seen every two or three hours. Dr. Fey said that peristalsis might not be heard at one listening but two or three hours later it can be heard and bowel movements may begin again. Unless you catch it when there are peristaltic waves you will not see it. That is one advantage of seeing the patient frequently. The other point is that in three hours the patient's condition can be changed. He may have signs of obstruction, temperature of 99° and moderate pain and in three hours the temperature may go higher, the pulse may go up to 130 or 140, the abdomen become distended, the vomiting will become fecal, and the mortality will be high. I want to leave that point with you, if you have a patient suspected of having obstruction he should be seen at frequent intervals.

Dr. H. J. Jurgens, Quincy: I have been very much impressed with this symposium on intra-abdominal con-



ditions. I am sure we all agree that appendicitis is one of the most treacherous things we can think of. Sometimes we think we are perfectly safe in postponing operation only to find that the patient dies in the interim. We all have come to the conclusion that operation in appendicitis should be early. However, we do not always get these cases early. As Dr. Murphy and Dr. Cubbins have said these cases sometimes get so low we do not know if they are going to get well or die. Then the old question of thirty years ago comes up, when to operate? Here the Schilling test is wonderfully helpful and practical. If the patient comes in 48 to 72 hours after the first symptoms with evidence of general peritonitis you know if you operate on that patient he will die. If you put that patient on the old time and much criticised Ochsner treatment: in the Fowler position, give him fluids constantly under the skin and in the veins and enough morphine to dull higher centers so they cannot be hammered to death, then wait until the staff count rises 5 to 10 points then you can go in and save your patient: drain the abscess and leave the appendix alone as stated by the other speakers, until some future time.

The fact that Dr. Murphy found saline fluid in the abdomen is not a sign that perforation has taken place. We know from Chile that after a certain amount of saline has been introduced into the system if you open the abdomen you will find a large portion of it in the abdominal cavity. We have simply saturated the tissues with so much fluid that it flows over into the peritoneal cavity. As to intestinal obstruction, we have had a very illuminating demonstration. We all know what a dreadful thing it is. We all know that it carries a dreadful mortality. We all know we can lower that mortality by going into the abdomen early. We have heard a great many ways this afternoon of finding out early whether we have obstruction but not one of the gentlemen discussing these papers has given us the best early diagnostic method of all, which is the x-ray. Why does the x-ray give us early indications? We know that in a normal small intestine there is practically never any gas present. It is only when a pathologic condition appears with stoppage of the bowel contents that the gas forms there. Therefore, if we send these patients immediately to the x-ray room, take a flat picture of the abdomen and find gas bubbles all over the abdomen we know the small intestine is obstructed and if in addition we find fluid levels we know positively we have intestinal obstruction.

What then is the use of waiting for visible or audible peristalsis? In the last three or four months I have had the occasion to verify that on seven or eight cases. In every one of these cases where I was a little dubious the information given by the x-ray was helpful and found correct on operation.

It would have been very interesting if Dr. Cubbins and Dr. Fey in the resume of the mortality of these cases could have included the point of obstruction, whether high or low since we know that dehydration is in inverse proportion to the distance of the point of obstruction to the pylorus. Therefore, finding the ob-

struction high we might on theoretical grounds prognosticate a greater mortality.

Dr. Ciney Rich, Decatur: If I heard Dr. Murphy correctly, he said he had six deaths in 497 cases of appendicitis. If that is true I have my quota filled ahead of time. I would like Dr. Murphy to tell about the drainage method.

There is one question I would like to ask about intestinal obstruction.

With obstruction in the ileum I have frequently found ileostomy necessary. When, however, the ileostomy tube is removed, a certain percentage of these cases give one the feeling that the discharging intestinal juices are going to completely digest the whole abdomen wall. What is your procedure to overcome that difficulty?

Dr. Amos Fey, Galesburg (closing the discussion): I certainly agree with all Dr. Coleman said. It has been advocated in several articles to delay operating on obstruction until you can get some fluids into the patient. The writers specifically said it would take several hours to do that. It does not take that long. You can give fluids while the patient is on the table. You can give fluids subcutaneously and intravenously at the same time and give them safely.

A great many methods have come out by which to treat intestinal obstruction. The nature of intestinal obstruction makes it difficult to tell which is indicated by studying series of cases. One obstruction is high up, the other low down and they all have different degrees of damage to the bowel and different degrees of distention. We did not attempt to discuss intestinal obstruction in all its phases.

I agree with Dr. Jurgens about the x-ray being a valuable method of diagnosis. I did not mention it in my presentation because it had only been used in a few cases at the County Hospital. We have used it in private practice. It must be understood that we cannot use x-ray diagnosis at home, the place where many of these obstructions must be diagnosed. Barnum must never be given in a case of acute obstruction.

Regarding Dr. Jurgens' question about high obstruction, the records were not always accurate about the height of the obstruction in the bowel. Sometimes that cannot be accurately determined because you do not have enough bowel exposed. In 144 cases only five per cent. were in the jejunum, most of the others being in the ileum. A few were in the large bowel.

With regard to ileal fistula, Dr. Cubbins has suggested section to remove the secretion. I have seen one case of jejunal fistula heal. We treated the case with zinc oxide on the skin and we feel the patient every other day so the intestinal secretion would not be stimulated. That is open to criticism because you cannot feed patients every other day that are in poor condition. Two things are necessary, one to close the fistula and the other to prevent digestion of the abdominal wall.

There is one other piece of information in this series that we did not present. There were 9 consecutive cases without a death; 22 consecutive cases with only 2 deaths, illustrating the fallacy of attempting to draw conclusions from short series of cases.

## SCHOOL HEALTH AND HYGIENE\*

FRANCIS L. BACON

Principal of Evanston Township High School

EVANSTON, ILL.

For many years the state has given legislative recognition to the problem of the maintenance of health and the prevention of disease. In practically all states rather definite prescription has been made concerning the teaching of physiology and hygiene in the public schools.

Until the last decade or two the meeting of these state requirements has been done, almost totally, in a dull, formal, and narrowly-informative manner. A new economic and social world has brought changes to the content and methods of education, as it has to all important phases of modern life. Gradually a whole new conception of the importance of health, community and personal, has been created and by popular insistence the schools have responded with varied but earnest attempts to meet this significant problem.

It is no exaggeration to affirm that today the average man is more conscious of the general problem of health than ever before. A wide diversity of influences may be given credit for this awakening. It is not necessary to enumerate these various agencies. Suffice it to point out that periodicals and books; advertising media, almost infinite in variety; and organized educational efforts as public schools, private schools, and public associations have all happily conspired to a general realization of the importance of health.

The schools cannot continue as a vital, functioning agency within the community and for the state unless some reasonably adequate attention is given to problems in which the people of the community and state are interested. This is a practical educational axiom.

The increasingly wide social, educational and shall we say, economic interest which has developed in questions of public health and personal hygiene has challenged the school in no uncertain terms.

The implication has come that not only must the school do something about the offering of material which might constitute a course in

health but that the process of health instruction should be largely improved.

It may startle those who have not thought about it to realize that the development of health courses and methods in our public schools has not been accomplished primarily by school executives or by classroom teachers. The school recognition of health has come, as almost every other subject new to the curriculum comes, by the critical attitude and pressing demands of the public.

The idea for new school courses is usually germinated in the minds of critical lay philosophers; it is incubated by means of the periodical field and the lecture platform; and it is hatched through the medium of community and state associations, clubs, movements et cetera. The teacher, in the classroom, is the last one to hear about it; and with much justice, often largely ignores a problem with which he is unfamiliar.

As a matter of fact, school executives agree that teachers generally have been exceedingly loath to recognize the demand for health courses. Surveys also testify to the fact that school executives, in large majority, strongly resist the addition of new courses to the curriculum. They maintain, and with good reason, that the school is already overburdened. If asked their belief regarding the educational value of the new material comparably to the old the replies are almost invariably favorable to the new. They affirm readiness and desire to accept the new if some of the old could only be eliminated. If time permitted, we could pause here, at some length, to discuss the traditional college requirements and how they conspire to ancient and formalized learning.

It is sufficient to point out that health has made, generally, but a weak and small advance in the high schools of the country, largely because the school principals cannot trade, as they desire, college-preparatory time for it.

In spite of much handicap, health teaching has made progress, particularly in the elementary schools. Certain localities have become more or less famous in public school health work. However, surveys show that school health work the country over is astoundingly deficient. There are, in reality, but few places which have a functioning health program which may be called more than a gesture.

\*Read before Section on Public Health & Hygiene, Illinois State Medical Society, Peoria, May 16, 1933.



A noted doctor who has made himself far more famous with his pen than with his pills or his scalpel apparently believes that the public should be educated in health matters. At any rate, he not only writes books on health in popular style, but he syndicates breezy and interesting, if not always professional or accurate, health information through the columns of scores of newspapers.

In one of these articles he writes what he evidently intends as a general diagnosis of school health examinations. The quotation follows:

"It was not until they sent his son home from school with the announcement that he was too tall that my friend, Joe Griffith, lost his temper.

"He really had stood a good deal. When his little girl was too thin and came home in tears because the room was not going to get a large gold star because she was the only one that was not up to weight, he consented to try out the plan of allowing her to have milk in the middle of the morning and the middle of the afternoon session. The milk spoiled her appetite for her regular meals, and instead of getting her weight up, she lost weight, so that the room really was worse off than it was before.

"He patiently went down street and purchased a special pair of shoes because the medical inspector had sent another of his children home with the cheerful announcement, 'If you don't want your child to have knock-knees, buy a pair of Special-Built shoes.'

"He stood the expense of several tonsil and adenoid operations, against the advice of the family physician, and was not able to see that they did any good. Being of a methodical frame of mind, he counted the number of colds after the tonsil and adenoid operations, and found it was higher than before.

"The tonsil and adenoid situation caused him to do a little investigating, and he found that in a room of 43 children, 31 were reported by the medical school inspector to need tonsil and adenoid operations. He thought this was too high a proportion for any disease to occur—human nature can't be that rickety—and it has caused him to doubt tonsil and adenoid reports ever since.

"He says he has rearranged his whole life so that he never gets anything he likes to eat any more, is constantly freezing to death from too much ventilation, and that in the meantime, his children haven't got very far with an education.

"He is not sure whether he has sent them to a hospital or a school.

"But he is not going to saw his son's legs off because he is disproportionately tall for the other scholars in his room.

"He believes in the medical inspection of schools, but he thinks the reports should be made privately to the parents, and that they should be allowed to decide whether they want anything done about it or not. If they decide not, then the matter should be

allowed to drop. The child should not be badgered and re-examined and reported and made to feel a disgrace or a pariah."

It is difficult to know what this distinguished purveyor of health information intended. We do not wish to be either overcritical or unfair, but, in any case, his picture is so obviously a compilation of all of the fool things ever done in health examinations. The regrettable phase is the inability of the school people to correct adequately the wrong and unjust impression of school health examinations which this article gives to a large number of readers who are interested in health.

The average doctor's knowledge of what the schools do about health is probably derived from the exceptional or disgruntled cases which are brought to his attention. Naturally, his impressions are often formed from these cases. Parents whose children have health difficulties are prone to over-anxiety, extreme attention and exaggerated expression in regard to their children's ills whether they be real or fancied. Every practicing physician can testify clearly enough to such facts. The eminent doctor whose statement we have just read has used, as is so obviously apparent, a summary of several such cases, treated as one for the purpose of dramatic and literary effectiveness.

It should be hastily stated that such exaggeration is not representative of the medical viewpoint, although there are physicians who hold doubtful views about the place, the content, and the methods of health instruction.

Those who hold to such views in a highly critical or reactionary way are, for the most part, singularly unfamiliar with what the school is doing. A school executive or teacher would be inclined to faint with surprise if a doctor should ask seriously, "Now I am interested to know exactly what the school is doing about health"; and he would be thoroughly anesthetized if a physician should visit the school to see for himself what was going on in health work.

There is still abroad an attitude, gradually diminishing in extent, that the school health program in some subtle fashion is undermining the prestige and practice of the physician. Fortunately, nothing could be further from the truth. There is ample evidence that schools have done more than any other single agency to disabuse the public of that long persistent



tradition and custom to call the doctor only in case of dire emergency. The school health policy has accepted the opportunity to introduce the good, helpful, and necessary services of the doctor upon every occasion.

The major objective of health instruction, as developed in the best schools, is to establish an active health attitude—that pleasantly vigorous reaction to our fellowmen and to other essential factors in our environment which will insure successful living. Mere freedom from pain, discomfort, or other marked evidences of disease is no longer sufficient as a goal of health. The aim of the school is to create a healthful, forceful personality of happy, vigorous vitality, mental as well as physical in its manifestations. “The purpose of the school,” states Dr. Keene of Buffalo, New York, nationally known as a leader in health education, “is to establish right attitudes not only toward health and living, but toward life itself. It is more than mental hygiene; it is more than physical. It necessitates that unity of the individual which is essential for health, happiness, and contentment.”

The school health program supports big muscle activity in the form of suitably graded exercise for not only generally defined types but for individuals, as well. No doubt errors have been made in the past by common exercise requirements for all. The good school of today knows better and adjusts its physical education requirements accordingly. That youth of today needs an adequate program of planned exercise more than ever before may be accepted without argument.

It is generally accepted, also, that youth should acquire certain valuable health habits which should become a regular formulated part of life. The elementary schools have made much progress in respect to the establishment of these desirable habits. It has not been possible to make effective progress in habit formation without much emphasis on drill. The necessary drive that comes with such drill produces a certain amount of publicity. Most of this publicity has proved favorable. The success of health habit programs has been, in some instances, so amazing that the school has lost its sense of balance. Too much time and attention in a few cities have been given to health and a few over-zealous teachers have used

devices and incentives too ardently. These exceptional cases have demonstrated what remarkable results can be obtained when a concerted health instruction program is attempted.

Those who have had experience with strong programs of health habit-formation report that the influence upon the parents, other adults, and the community generally to better health habits and attitudes through the activities of the children is most reassuring and fully justifies the efforts made. The adult becomes impressed with the school idea that a mere knowledge of health practices is not sufficient. The modern educational conception emphasizes that true learning implies reactions in human conduct. To see the child actually follow through with habituated activity brings realization that the program is working.

It is true that the young normal child is not primarily interested in his future health. Illness is to him a temporary but immediate discomfort which he devoutly wishes to escape at the earliest possible moment. However, as he grows older his mass of knowledge not only increases but he finds the increasing need for applications of knowledge and experience in the solution of his difficulties. Deferred or future values in relation to his immediate life situations become constantly more apparent. Accordingly, drills in health habits are no longer sufficient. They must serve as a base upon which an advanced program is built. The older youth should be able to interpret health habits in the light of accurate scientific information. Otherwise, habits will be discarded by the desire for personal gratification or by the insistence of false advertising which is carried dominantly upon printed page and over the radio.

It follows that the higher grades must offer courses which will give the necessary information, designed to aid adjustment and desirable adult development, of important habituations. In such courses should be offered the scientific facts relating to the construction and function of the bodily organs, particularly those which may be definitely related to healthful activity. The major emphasis should naturally rest upon function, rather than upon mere information; upon doing and living, rather than upon stored up knowledge.

Distinct and separate courses in health probably do not provide sufficient attention commensurate to the importance of health. They might if all children took them, but usually they are elective and relatively few children complete such courses. There is, therefore, need of following up the early elementary school practice in some more comprehensive way.

Other subjects may contribute to some degree, physical education, general science, and biology especially. Community health problems are often a definite part of the science and civics program. The capitalization of the common experiences of children into organized health activities is a method which has been successfully applied in the development of a coordinated health program. Every effort should be made to emphasize health rather than disease and a program of correlated activities helps in such accomplishment.

Of all the parts of a health program the annual physical examination may well be the most constructive. Examinations enable the school to make reports to the family physician and to the parents concerning matters that need medical or dental care. The classroom teachers, through these examinations, learn of the physical condition of their pupils and make necessary adjustments of various kinds; for example, answering such questions as: should the pupil do less than normal work or can he carry a heavier load? Should he carry the strain of an outside job or is athletic competition too strenuous for him? Is his irregular attendance justified; and many others which may be peculiarly significant to the individual's school success and physical welfare.

It is surprising, to the uninitiated, to learn how many parents have failed to realize certain physical and hygienic conditions pertaining to their children which are disclosed by the school health examinations.

These examinations are also used in the better schools as a basis for the segregation in special classes of nutritional, cardiac, or orthopedic cases.

Health examinations are sometimes criticized because there is inadequate follow-up. School facilities and finance ordinarily do not permit much follow-up, but in case of schools with unusually complete health programs there is relatively little follow-up of examinations except

as results are used for school adjustments. The school believes that it can go no further than to report to the parents cases which seem to need medical care or at most to the family doctor if one has been named. Now and then in exceptional cases the school may institute a procedure which finally results in family attention to a serious eye difficulty but, in general, all action in medical follow-up is left entirely to the home and this is true even in those few schools which carry a staff doctor.

The school in all of its health work attempts to lift the health ideal of the individual and for the group. The position, prestige, and opportunity of the practicing physician is thereby increased. To a community which is thoroughly conscious of the importance of constructive healthful activities and attitudes the doctor is a more necessary and significant person; and he is afforded a larger opportunity to present his services with a greater degree of effectiveness. The school and the medical profession are obligated to accept the challenge of cooperative endeavor in the development of an appreciation and preservation of the most fundamental of all human values—the health of the American people.

#### DISCUSSION

Mr. E. C. Fisher, Superintendent of Schools, Peoria: One who has spent so little time in the study of public school health and hygiene, and who has read much from the pen of the man who has just spoken, and who has had opinions from such leaders as Dr. Keane, comes before a group of this kind with trepidation to discuss a paper which has been so well written. The whole story of public health has been told between the lines. That is the attitude in which I come before you. Of course, I should like to disagree with Mr. Bacon. Just about ten years ago I placed on my desk this topic, that doctors disagree. I don't mean only medical doctors but I mean doctors of all kinds, and I started out in my own field, the educational, and I found out what one man said the other man said was not true. And then I got into the medical field and found that one man called a certain disease smallpox and the other called it measles. And, so I wanted to go on through, and I am still trying to do that. In the end, I hope to find a place for the layman so we can at least have one foot on the ground.

A gentleman picked me up last night and drove me home. I shall not say whether he is a professional man or not; I will leave it for you to guess. We had some cases of smallpox in town. This is what he said, "Most people call me judge, some call me worse names than that but, I will bet you a dollar to doughnuts that those are measles and not small-



pox." Now, they were diagnosed by a reputable doctor in Peoria. So that is what I mean when I say I face a difficulty in discussing public health which has been so carefully presented as it has here this afternoon.

The doctor's first thought as it came to me was a State program. My own experience goes back a little further than that of the doctor's. Early in the history of the State, the legislature developed a health program which was largely to discover contagious diseases and check contacts. Later on it grew to a much greater extent and in Illinois, for the first time only four years ago, the State legislature provided a State physical director. The work of this man was to so organize physical education as to coordinate it with a health program to conserve the masses of the people rather than the few, and that the doctor's paper indicated.

Health conscious, I am not sure of that. I presume now we can get into an interesting discussion if we take the mental side and the interpretation of one of the doctors in an Eastern university where he said that mental pabulum should be absorbed so simply and without any thinking that it would make education easy. But I am sure that is not the type of health consciousness he is talking about. Health consciousness in the sense, in which I use the term, we all want somehow to feel that invigorating pulsating strength that enables us to catch ourselves by our boot straps and go out and fight a little harder. I am coming more to feel that. There are certain forces, of course, which oppose that type of activity, but we must think health. The doctor spoke of the positive side of it. One of the puzzling things to me is the work of the W.C.T.U. that they could bring about State prohibition by pointing at the fellow in the gutter. Neither can we, in this modern day with our new interpretation of life, bring about health by continuously talking about disease. We must talk health; we must think health. I am not so sure after all that it is old-fashioned, "as a man thinketh, so he is." You can put up a good fight that way.

Another point that I think is so vital in Mr. Bacon's paper is that the school is the best point through which to reach the community. It is the clearing house of the whole situation. All the children of all the people are in the schools. You know as doctors,—and if you don't there are school men who know that, if you want the community to know something, go to the schools. You can get it quicker that way than through the press because it goes to all the children. So it is the point of contact, and that is so vital in our health program, and that is where it is in the matter of school health and hygiene. The school physician and the school nurse under his direction are able to contact and discover these contacts and isolate them and stop the spread of contagious diseases in the community. Then the improvement in the health course. We all admit that. I suppose that could be said of every course in the public school curriculum today. We are coming more to feel that the course should be developed on

its functional side. You recall the picture of the doctor in the old books, how he looked at the stomach of an alcoholic and showed what liquor had done to him, etc. It is just this factual information, and very much exaggerated, I suspect, at times. So we are coming now to building up in the thinking of our young people something that is very positive in its nature. We are improving the course, here and in every other school community by coordinating the physical education and the dental department, which is part of our health department, with the medical department. Conditions in Peoria have been admirable for the development of a program of this type. There is no thought that has impressed me more than it has impressed you in Dr. Bacon's paper that the time for this is now. It is a preventive program and that is one of our difficulties in developing our health program.

It is due largely to the financial situation that we are not able to vary this program through our high schools as we do in our grade schools, having in mind prevention. None of our girls or boys in the upper grades and high schools are permitted to go into any athletic contest of any type until they have had a physical examination by the school physician or by the family physician and the report turned in by the parent.

The illustration that the doctor gave had a good deal of irony in it, a good deal of sarcasm. As I read the paper, the distressing thing that kept coming back to me was the tragedy of it as too many people believed it. How many of them read the syndicated articles that go out through the newspapers. I will not discuss what your attitude towards them is at all but the thing I am trying to discuss is that mothers largely read them. They take them into their homes and they become self-satisfied. They buy this stuff and apply it to their children. They do more harm than they do good. They read what Dr. Blank said in one newspaper and they get some other newspaper and read what some other Dr. Blank said. He didn't say that at all. One said to take Ex-Lax and somebody else said to take something else. So you are between two difficulties there. One is dealing with facts, the other with opinions. Opinions make arguments; facts are indisputable. The difficulty, many times in our co-operate movements or the lack of them is the simple fact that we don't observe the evidence. May I put it another way? I was brought up on a farm fourteen miles from town. We got to town three or four times a year, not more than that. No automobiles, no telephones. We came home with a lot of gossip and, of course, we told all the news. In the evening at supper, mother would say, "Now, boys, don't forget that no jury is asked for a verdict until it has all the evident." So, with the doctors, if they have all the facts, 99 times out of a hundred they will think the same way. It is necessary for you to know what is being done. The doctor emphasized that.

I don't take much stock, as the doctor does not, in the thought that the public health department is going to establish State medicine and is going to



undermine the family physician, etc. Sometimes our physicians are alarmed about that. Your patients don't think it. You are not going to have it that way if it can be any other way. So I am not alarmed about it. That is one thing we should not have and do not want.

The object of a health program is to establish a health attitude, healthy habits that carry over. There is no type of education in the school that is worth anything unless it functions. We have got to think of health in our teaching, just exactly as we think of our arithmetic or language or anything else. I have seen some of these children that get up and go through their tooth brush drilling with military precision and then wash their teeth once a week at home. It is getting function outside. Whenever our public health program can bring the young people to an increasingly intelligent self-direction, then we have accomplished what we started out to do. It is not enough to know, as the doctor has indicated. We must do if we expect to accomplish anything. One of our great difficulties, as you can see, is in the self-gratification of the individual in violating the laws of health, the violation of which often brings injury to himself. That is self-gratification.

Major A. P. Hitchens, M.C., U. S. Army, Fort Sheridan: My only point of difference with Mr. Bacon in his excellent paper is his depreciation of the work of public health teaching by the "over-enthusiastic." In my opinion no one can be over-enthusiastic with regard to health teaching in the public schools. If health officers desire a lowered death rate in this generation they should work in close cooperation with the physician; if they desire a reduction in the incidence of disease in the next generation, they should work in equally close cooperation with the school and the school teacher.

## CARCINOMA OF THE JEJUNUM\*

### Report of Case

RALPH A. KORDENAT, M. D.

From the Department of Surgery, University of Illinois  
College of Medicine

CHICAGO

Carcinoma of the jejunum is of clinical interest because of its rarity and the fact that few cases are diagnosed early in the course of the disease when surgical treatment may be of any value. The instance of carcinoma of the jejunum here reported illustrates the difficulty of early diagnosis because of the confusing signs and symptoms relative to derangement of the gastro-intestinal system.

The actual percentage of the incidence of carcinoma of the small intestine, compared to its

occurrence in the rest of the gastro-intestinal tract, is probably less than three per cent.<sup>1-10</sup> For some unexplainable reason it seems that carcinoma is more frequently found toward the proximal and distal ends of the gastro-intestinal tract, leaving the small bowel comparatively free. A number of theories have been advanced to explain this rarity. The fluid contents of the small bowel, its alkaline reaction, lack of abrupt bends and absence of stasis has been mentioned as possible reason for the infrequency of carcinoma in the jejunum. Mention has also been made of

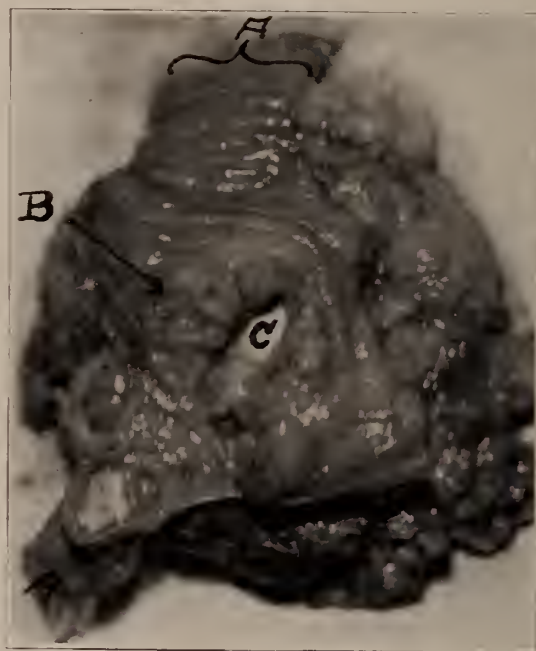


Fig. 1. Carcinoma of Jejunum: Jejunum (A) opened to show (B) the primary carcinoma and (C) the communication with ulcerated, large mass of carcinomatous tissue. (Posterior view.)

those individuals who, in upholding the parasitic theory as the cause of cancer, found, in the rarity of its occurrence in the small intestine, an argument to uphold their view. In the majority of instances carcinoma of the jejunum is found during middle life. Males are perhaps more frequently afflicted than females.<sup>1,2</sup>

**Symptoms.** An early diagnosis of cancer of the jejunum is seldom made. In the majority of those instances described in the literature the patients came for treatment of complaints referable to mechanical occlusion of the small bowel.

Early in the course of the disease there is a fixed pain, insidious in onset, pressing or burning in character and located in the region of the

\*Read before Section on Surgery at Peoria, May 17, 1933.

navel. The pain usually occurs soon after eating and later becomes colicky and more severe.<sup>6</sup> Early this pain may be relieved by laxatives, as in the instance here reported. Later, when the excruciating pain of obstruction begins, relief is obtained for short intervals by vomiting. The pain is never relieved by food or alkalies alone.

Food dyscracies are particularly noticeable. Nausea usually occurs early and is more marked soon after meals, due to the stasis in the proximal portion of the jejunum. Later, after marked distention of the bowel has taken place and reverse peristalsis occurs, vomiting is frequent. The vomitus rarely contains blood but more often bile-stained stomach contents.

Weight loss is a common finding in most cases reported and usually is more manifest later in the course of the disease.

Anemia is a rather noticeable feature. Attention has been called to the fact that patients with carcinoma of the small bowel are often treated for pernicious anemia and that they do not favorably respond to feeding of liver extracts.<sup>2</sup> Constipation is more frequent than diarrhea and occurs early in the course of the disease. The relief of constipation in the instance here recorded gave relief from pain, and when constipation was marked, pain was more severe. Later constipation becomes increasingly obstinate. Stool examinations often reveal occult blood. The blood pressure is low compared to the age of the patients. The duration and course of ill health is variable; the average is about eighteen months.

Physical examination during the later stages of illness usually reveals an individual who appears ill, with the clinical picture of intestinal obstruction. The abdomen is usually distended with gas. There is a visible peristalsis, though it may be hidden by a distended, obese abdominal wall. Tenderness and rigidity are marked. Rankin has called attention to the tender mass, found in the upper abdomen, that slips away from the examining fingers.<sup>2</sup> Borborygmus is significant.

*Laboratory Findings.* Blood examination shows a secondary type of anemia in nearly all cases. If obstructive signs are present, a polymorphonuclear leucocytosis will be noted, together with the other signs of intestinal obstruction.

Urinalysis may reveal the presence of indican.<sup>7</sup>

Roentgenological examination is of vast importance from a negative standpoint, especially in respect to examination of the stomach, duodenum, colon and gall bladder visualization. Bevan has described the "lake of barium" seen proximally to the carcinoma as an early X-ray manifestation.<sup>11</sup> The small bowel proximal to the tumor may be found to be distended and it seems unwise to overdistend this proximal portion of small bowel with barium, thus increasing the obstruction. Roentgenological study may best be dispensed with if definite signs of acute obstruction are present unless the opaque meal can be removed without difficulty. The use of other opaque media in roentgenological examination is perhaps more suitable than barium in such instances.

*Pathology.* Two types of carcinoma of the small bowel are quite generally recognized:

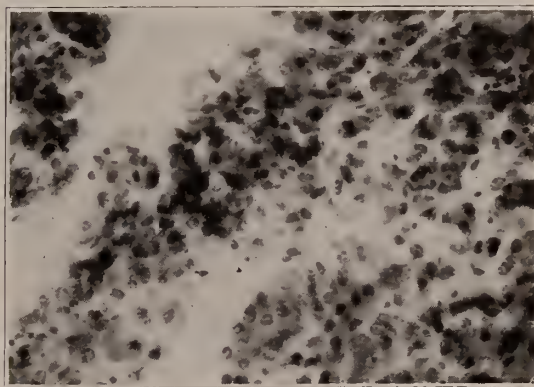


Fig. 2. Carcinoma of Jejunum: Section taken from primary growth.

1. The ring type of localized adeno-carcinoma, resembling those found in the large intestine. These cause gradual obstruction and are often difficult to locate and are not palpable early. In this type the proximal loop of bowel becomes slowly hypertrophied from gradually increased exertion and ultimately becomes distended.
2. The intestinal polyps that undergo malignant degeneration. These are usually small and cause intussusception, with the resultant sudden onset of symptoms and signs of intestinal obstruction. Judd has called attention to the fact that the omentum is often adherent to the tumor. In the instance here reported, all surrounding organs were firmly adherent to such an extent as to form a mass about 16 cm. across and yet, be-



cause of the rigid and obese abdominal wall, this was not palpated before operation.

Histologically, these tumors are of the columnar-celled and, less often, of the spheroidal-celled form. Metastasis occurs early in the mesenteric lymph nodes, peritoneum, liver, lungs and finally in the long bones.

*Treatment.* It seems a generally accepted opinion that early resection offers the most satisfactory results. When the mass is not removable, a side-tracking, lateral anastomosis of the small bowel gives good results.

The prognosis is poor in most cases. Naturally, if these patients are first seen after a well established intestinal obstruction, the outlook is much less favorable.

#### CASE REPORT

A man, 37 years of age, entered St. Joseph's Hospital, Chicago, on May 16, 1932, complaining of burning sensation in abdomen; pain in right upper quadrant; weakness and palpitation, and loss of weight.

*Onset and Course:* Burning in epigastrium together with a pressing, boring pain which began insidiously four or five years previously. It was irregular at first and noticed about one-half hour after meals. He took cathartics for this pain and, as long as he did so, the pain did not recur. This pain was not relieved by food or alkalies. During the year before admittance to the hospital the pain had been very irregular as to character and occurrence; often it was quite severe, becoming more constant. Weakness became marked in the month preceding admittance. There was no history of tarry stools.

His family, past medical and surgical histories were negative.

*Physical Examination:* The patient was well developed, obese and obviously anemic. The following positive physical findings were noted. There was a marked distention of the abdomen, with a definite area of tenderness below the right infrasternal arch in the mid-clavicular line. Palpation was unsatisfactory because of the obese abdominal wall. Temperature was 100.4° F, pulse 84, respiration 20, blood pressure 120/70.

*Laboratory Findings:* Blood: Hemoglobin 60 per cent., erythrocytes 2,920,000, leucocytes 7,850, polymorphonuclear neutrophils 81 per cent., small lymphocytes 10 per cent., large lymphocytes 9 per cent., erythrocytes normal in size and shape, coagulation time 2½ minutes, blood Wassermann and Kahn tests negative. Stool revealed occult blood. Roentgenological examinations showed no filling defect in the stomach, duodenum or colon. The response following the visualization of the gall bladder was within normal limits.

A provisional diagnosis of duodenal ulcer was made though no ulcer could be demonstrated by roentgenological examination. The patient was placed on a milk and cream diet and given three whole blood transfusions. Liver extract (Lilly's) was given daily and 15 units of Parathormone was given every fifth day for six

doses to obtain a higher blood calcium. The erythrocyte count increased to 5,020,000 on May 24. At this time the patient felt improved, was free from pain and was discharged from the hospital.

On the evening of June 21 the patient was readmitted to the hospital because of a severe abdominal pain in the lower right abdominal quadrant, chills and vomiting. At this time the abdomen was distended, rigid and tender. Blood examination revealed hemoglobin to be 64 percent., erythrocytes 3,630,000, leucocytes 22,200, and polymorphonuclear neutrophils 84 per cent. Blood pressure was 120/78. Urinalysis was negative. Temperature was 102.8° F; pulse 100; respiration 22.

*Operation:* Under spinal anesthesia a long, right rectus incision was made. There was considerable fluid in the abdominal cavity. Appendix was normal. There was a large, hard, immovable mass about 16 cm. in diameter just beneath and adjacent to the transverse colon. Omentum was adherent by fibrous and fibrinous adhesions to this mass. Upon loosening the omentum several large, hematomatous swellings were seen in the lower part of the tumor. The small bowel was too firmly adherent to free from the mass. These tangled loops of bowel were so densely adherent to the mass that, upon attempting to free the loops in order to close loops for a short circuit operation (lateral anastomosis), bleeding became so profuse from the hematomatous swellings that immediate closure with drainage was decided upon. The gall bladder, liver, kidneys and stomach were normal in size, shape and position. Some loops of the small bowel were distended.

The subsequent temperatures varied from 101° to 105° with a correspondingly rapid pulse of 140 and respiration varying from 20 to 50. The patient passed large quantities of dark brownish-red liquid stools, often containing fair sized blood clots. Patient died three days later.

Post mortem examination was limited to the abdomen. There were a few adherent, blood-stained, fibrinous masses on the peritoneum. The liver was well above the costal margin. The great omentum, near its attachment to the transverse colon, was adherent to a mass immediately distal to the hepatic flexure of the colon. This mass was also adherent to the first portion of the jejunum. Upon opening the jejunum about 4 cm. from the duodeno-jejunal junction an elevated and ulcerated mass of tumor tissue was found that nearly obstructed the lumen of the jejunum. The center of this mass was very friable and communicated with the large mass previously mentioned. The tissue of the mass proper was a soft, grey, friable tissue mixed with blood clots. There was no changes in the lining of the stomach, duodenum or colon. The other abdominal organs revealed no gross pathology. The small bowel, distal to the tumor contained free blood. *Anatomical diagnosis:* Medullary carcinoma of the first part of the jejunum with large regional metastases in the common mesentery and mesentery of the ascending colon.

#### CONCLUSIONS

Carcinoma of the small bowel may be suspected in individuals who have persistent abdom-



inal pain, secondary anemia, not relieved by the usual measures, and who have symptoms referable to disorders of the gastro-intestinal system. Exploratory laparotomy should be done in such instances, especially after competent roentgenological examination fails to reveal diseased conditions of the gall bladder, stomach, duodenum or colon. The grave mistake made in the instance here reported was that exploratory laparotomy was not done when the patient first visited the hospital.

It does not seem necessary to wait until blood has been found in the stools before any surgical procedure is instituted, though the stools should be persistently examined for blood. Proctoscopic examination will rule out bleeding from rectal disease. If there is any hope for these patients it is in early surgery.

#### DISCUSSION

Dr. P. H. Poppen, Princeton: Dr. Kordenat's paper covers the subject very well indeed. There are a few points I wish to stress. First of all, the rarity of the disease. Up until 1919 at the Mayo Clinic Judd reported 11 cases; from 1919 to 1929, Rankin and C. H. Mayo reported 18. Dr. Arthur Dean Bevan told me last week that he had had three or four cases. It is important to bear the condition in mind in cases of high intestinal obstruction. The x-ray findings are important in ruling out pyloric obstruction. With the vomiting of large quantities of fluid, suggestive of obstruction of the jejunum, with negative x-ray findings and blood in the stools, suspect carcinoma of the jejunum. The patient's only hope is in early resection. The prognosis is most favorable in the polypoid type.

Dr. Gatewood, Chicago: I would like to review one case because the symptoms are exactly like those described by Dr. Kordenat. This man, the father of a classmate of mine, came in with the history of a feeling of pressure in the abdomen, and vomiting of large amounts of fluid at intervals. He had visible peristaltic waves. Peristaltic waves come in the small bowel after long continued obstruction, not early. There was a small palpable mass in the upper abdomen. Much occult blood was present in the stools. The stomach contents were normal and negative for blood. The duodenal tube was not used. Sometimes we have mixed blood in the stool and at the same time there is no blood in the duodenum. This aids in localizing the source of the bleeding. The x-ray revealed an obstruction below the duodeno-jejunal junction.

The patient was operated upon by Dr. Bevan and a resection of seven inches of the bowel was done. The tumor (shown on screen) was of the polypoid type which offers the best prognosis. This patient was living when last heard from, nine years after the operation.

As Dr. Kordenat has stated, negative x-ray findings are important. This patient happened to have positive

findings, but in the small intestine, without high grade obstruction, obstruction can not be found by x-ray. In this particular instance the correct diagnosis was guessed at, though some other diagnoses were considered.

1. Judd, E. S.: Carcinoma of the Small Intestine. *J. Lancet*, April, 1919, 39:159.
2. Rankin, Fred W., and May, Charles 2nd: Carcinoma of the Small Bowel. *S., G. & O.*, June, 1930, 50:939.
3. Clark, E. D.: Carcinoma of the Small Intestine. *S., G. & O.*, 1926, 43:757.
4. Bunting, C.: Carcinoma of Ileum. *Bul. Johns Hopkins Hosp.*, 1904, 15:387.
5. Ewing, J.: Neoplastic Diseases. *W. B. Sanders & Co., Philadelphia, 1922.*
6. Schleebs, W.: Über das Primäre Carcinoma des Jejunum und Ileum. *Beitr. zur Klin. Chir.*, 1908, 58:722.
7. Soper, H. W.: Carcinoma and Other Lesions of the Small Intestine. *J. A. M. A.*, 1929, 92:286. Primary Carcinoma of Jejunum and Ileum; Report of Two Cases. *Boston Med. & Surg. J.*, 1909, 161:107.
8. Bland-Sutton, Sir J. B.: On Cancer of the Duodenum and Small Intestine. *Lancet*, London, October 17, 1914, 2:931.
9. Jefferson: Cancer of Suprapillary Duodenum. *Brit. J. Surg.*, October, 1916.
10. Johnson, R.: Carcinoma of Jejunum and Ileum. *Brit. J. Surg.*, 1922, 9:422.
11. Bevan, A. D.: Carcinoma of Jejunum, etc. *Surg. Clin., Chicago*, 1917, 1:1:1.

#### FURTHER OBSERVATIONS ON ALLERGY\*

JOHN PETERS, M. D.

Asst. Clinical Professor of Medicine, Loyola University

MAYWOOD, ILL.

MAURICE J. HOFFMAN, M. D.

Clinical Assistant in Medicine, Loyola University

CHICAGO

Allergy is a term applied to such altered manifestations as asthma, urticaria, angioneurotic edema and many vasomotor disturbances.

Physical allergy is a form which is brought about specifically by a physical agent, such as heat and cold or mechanical irritation. These reactions may be immediate, delayed, local or general, and are not transferable. For a number of years many theories have been advanced as to the etiology of the various cases of hypersensitiveness and just as many have been discarded. The same applies to our methods of treatment. Judging by the knowledge and experience with other diseases we are inclined to conclude there must also be a common factor in allergy, as it invariably produces similar symptoms in many individuals under different circumstances and environment. Many patients have improved in higher altitude, others felt better in warmer climate and some find relief with

\*Department of Allergy, Oak Park Hospital.

complete rest. There are a number of allergists who are enthusiastic over diathermy. Vaccines and foreign protein have been of some value. Although we are able to relieve most of our allergic patients, we are not in position to assure anyone a cure.

Doctor W. W. Duke of Kansas City, who has contributed a great deal to the science of allergy, especially that of physical allergy, states that heat and cold sensitive cases are caused primarily by a disease of the heat regulating mechanism and, in our opinion, is a source of immense information.

Doctor Rackeman of Boston states that hay fever, chronic vasomotor rhinitis, urticaria and infantile eczema clear up frequently when fever occurs from any source. Therefore, we would be inclined to believe that there must be a functional disturbance of the heat regulating mechanism. From our observation it became apparent that in all cases the mucous membrane of the upper and lower respiratory systems was most frequently affected as in asthma, allergic coryza, vasomotor rhinitis, and in all hay fever cases.

Before I proceed to report some of our experiences with allergic cases, I wish to describe a very interesting case which does not belong to any class of hypersensitiveness but may offer an explanation in our method of treating our allergic cases as described by Doctor Duke.

A young boy was severely scalded with hot water, producing a burn of the second degree, which extended from the chin to the hips, covering all of the anterior portion of the chest and abdomen. Within several hours he developed a temperature of  $104^{\circ}$ . He was immediately hospitalized. Treatments for burns were applied, but we were not able to reduce his temperature with any form of medication. We decided to try heat. The child was placed under a therapeutic lamp, exposing the entire burned area and within several hours his temperature dropped to  $101^{\circ}$  and within twenty-four hours his temperature dropped to  $100^{\circ}$  and remained so for four days.

To prove its merits the lamp was removed and the temperature rose to  $103^{\circ}$  within several hours. The heat was re-applied and the temperature dropped to  $100^{\circ}$ . This treatment was continued for ten days, the child making an uneventful recovery.

Case 1. Female patient, aged 44 years, who had been a subject of asthma and dermatitis for the past seventeen years. She noticed her condition to be much worse in hot weather and on exertion. The only relief offered in the summer would be a trip to a higher altitude. Physical examination was negative except for her dermatitis and asthmatic breathing. Skin tests were positive to pollen and treatment for same did not improve

her condition. The heat of a 1500 watt nitrogen lamp applied to the body, exposing the chest and abdomen for one minute caused very severe asthmatic breathing. She was relieved within a few minutes by vigorous rubbing of the chest and abdomen with ice. The treatment continued with alternating applications of heat and ice rubs each day and within a period of six days she was free from symptoms, and the dermatitis cleared up to the extent of ninety percent.

Case 2. Male patient, aged 30 years, had been in a constant asthmatic state for two years. Various medications had been used with no benefit. Vigorous rubbing of the chest, abdomen and legs with ice gave him instant relief.

Physical examination was negative and skin tests gave a positive to dust only.

Daily alternating applications of heat and ice rubs for two months has kept him entirely free from asthmatic attacks. Being a police officer he had occasion to participate in a fight which brought on an attack of asthma, but which was immediately relieved by the application of ice.

Case 3. Female, aged 61 years, has been subject to asthma for the past fifteen years and for the past two years has been unable to do her housework and slight exertion would precipitate an attack of asthma.

Physical examination was negative except for wheezing. Skin tests were negative.

Exposure to a 1500 watt nitrogen bulb required five minutes to bring on an attack of asthma which was relieved by the application of ice. She was asked to walk across the room several times and within two minutes she developed asthmatic breathing which was relieved with ice.

The treatment with heat and cold for two months has completely relieved this patient of attacks. On several occasions since, she has spent all day at the World's Fair walking most of the time without discomfort.

Case 4. Female, aged 32 years, subject to vasomotor rhinitis for the past five years.

Physical examination negative. Skin tests were negative. Her heat tolerance was tested and within two minutes gave a very severe reaction.

Doctor H. C. Riordan of our Nose and Throat Department was consulted and observed that the mucous membranes of the nose were markedly engorged with complete obstruction to nasal breathing. By a vigorous rub with ice the nasal mucous membranes returned to normal within three minutes. Treatments of heat and cold continued for two months with complete freedom from her symptoms.

Case 5. Female, aged 56 years, subject to urticaria for the past ten years which becomes aggravated in the summer. She also noticed while standing near the kitchen stove it would get much worse, also with excitement.

Skin tests were negative.

Rubbing the forearms with ice relieved the condition within two minutes. Patient was treated every other day with heat and cold and for the past year has been perfectly free from symptoms.

From our previous experience we concluded



that heat may also be an additional factor in hay fever conditions. We selected fifteen subjects and in addition to their pollen treatment we also treated them with heat and cold. This group were entirely free from symptoms. The remainder of our pollen cases treated with pollen were benefited to the extent of seventy-five per cent. In all our cases treated with heat and cold a record was kept of their temperature after heat exposure and also after the application of ice and the following results recorded:

Case Nos.	Asthma Cases		Hay Fever Cases		Vaso-Motor Rhinitis Cases	
	After—		After—		After—	
	Heat	Cold	Heat	Cold	Heat	Cold
1.	97.2	97.6	99.	98.2	98.6	98.8
2.	98.2	98.6	97.4	98.2	97.4	97.6
3.	97.8	98.	97.2	97.4	98.	98.2
4.	97.8	98.2	99.6	99.8	98.4	98.6
5.	99.6	98.4	97.8	98.	97.2	97.4
6.	98.6	98.	97.6	98.	98.	98.4
7.	98.	98.6	97.4	98.		
8.	98.4	98.6	98.4	98.		
9.	98.6	98.8	98.2	98.		
10.	98.2	98.6	97.8	98.2		
11.	98.6	98.8				
12.	97.6	97.				
13.	98.	98.4				
14.	98.4	99.				
15.	99.6	99.				

From the chart as indicated above it is apparent that the entire group in all three series showed a decrease in temperature by exposure to heat and a rise in temperature following the ice rub. These reactions were demonstrated only in those cases that were in an active state of allergy. When the same patients were feeling well and free from symptoms, the heat would raise their temperature and the ice would lower it.

On several occasions we observed the following: A patient came for treatment, apparently free from symptoms. Her temperature chart indicated a decrease with heat and increase with cold. We were certain that the patient was about to develop an active attack. The patient returned the next day, as per instructions, complaining of cough and wheezing, which came on suddenly during the night. The heat and cold treatment gave her immediate relief. Her temperature chart showed an increase with heat and a reduction with ice. The patient was assured that her attack would clear up shortly, and by evening she was entirely free from all symptoms and remained so for one month.

With all these experiments we are inclined to believe that all of these cases in which the etiological factor cannot be determined, belong

to the heat and cold sensitive cases and that there is a functional or organic disturbance of the heat regulating mechanism, thereby creating a vasomotor disturbance in the various organs in the body, resulting in a passive congestion.

Doctor W. W. Duke, to whom we are indebted for this contribution of "Physical Allergy and Its Treatment," maintains that most of his thermic cases react when their temperatures are subnormal. From these observations it may be reasonable that many cases improve with diathermy, foreign vaccines, climatic changes and rest, and for the same reason many cases will precipitate an unwarranted attack during the night with no apparent cause, which may be due to lower temperature during the night, or overheating in a warm room and excessive covering, depending upon the thermic disturbance.

In conclusion we wish to state that this is just a preliminary report and will require further research, and if others work along similar experiments it may lead to a new path in the etiology in some of our allergic cases, with a possibility of a new and permanent method of treatment.

#### WHAT I WOULD TELL LAY AUDIENCES REGARDING PRENATAL CARE\*

ESTHER SMUCKER, M. D.

TISKILWA, ILL.

Prenatal care, you know, is that phase of medical care which concerns itself with a mother and her child while that child is still unborn. One of its objects is to keep the mother safe and well and happy all the while she is carrying and bearing that child. Another of its objects is to insure a good birthright for the child, to insure that it shall be well born, that it shall have a heritage of good health, and that it shall live. Every year there are mothers and babies who do not have this care. Sometimes this care is not available, but most often in these modern days it is because the parents do not avail themselves of the opportunities which are at hand, and their failure to do so is usually due to the fact that they do not realize its importance.

While more than two million women passed safely through childbirth last year in the U. S.,

\*Presented on Medical Women's Day, May 16, 1933, at Peoria.

16,000 died. More than 10,000 of those who died might have been saved if they had received proper prenatal and maternity care and careful assistance. Or we may say that for every one thousand live babies born six mothers die, and that three of these are in the preventable class. If we consider this in terms of personality the figures may mean more to us. Out of my high school class of eight girls, already two have lost their lives in childbirth, one of them being my own particular high school friend. Last year in my same home community one of my college friends succumbed to toxemic convulsions before her second baby was born. These three deaths might all have been prevented. Each of you can multiply instances of your own.

In Leslie County, Kentucky, in the mountains, where I worked several years ago, the story came in from one of the outlying districts of a woman in labor who was being cared for by one of the native midwives; the woman had received, of course, no prenatal care. The child was not lying in the proper position in the uterus of that mother, and its arm and hand wanted to come first. The mother continued in labor, the midwife kept pushing up the little hand in a futile attempt to make that baby come right, but the child remained unborn. Finally, after two such days, in desperation one of the trained nurse-midwives was called. She arrived, but it was too late; mother and babe both died. If that mother had had her prenatal care, the position of that baby would have been determined and corrected before labor, or else adequate provision for a safe delivery would have been effected.

For prenatal care does make a difference. When I went to medical school we learned that 20,000 mothers die every year. If that figure has been lessened even by four thousand, as present numbers would indicate, it is due largely to right care that these have received before and during the coming of the baby. The Maternity Center of New York City, by adequate care during the pregnancy and delivery, has been able to reduce its maternal death rate two-thirds. And so will it help you and your baby!

Therefore, go see your doctor! Not just before your baby is due, not just after you feel life, but just as soon as you suspect that you are pregnant. For there is no short cut to good

obstetrics; it requires constant, detailed, intelligent care from the time of conception until the baby is at least six weeks old. No matter how good a doctor you choose to deliver your baby, this is your part in helping him to remain a good doctor so that he may adequately care for you at any moment of emergency. Therefore, I say again, go see your doctor as soon as you believe yourself to be pregnant. He will make a complete examination. He will check up on heart and lungs. He will take your blood pressure and examine your urine. He will measure your pelvis in order to determine whether the passages are large enough for the baby to be born. He will take a blood test to insure health safety for mother and child. He will make an internal examination, too. Nature probably intended that every woman should begin pregnancy in perfect physical condition. This is true in the minority of cases only, and can be ascertained only by a complete physical examination. It is a woman's right to expect this and she should never complain when the doctor insists upon just such an examination. For a doctor can never obtain results without constant co-operation from you, his patients, nor until parents realize that prenatal care is a scientific art and until they are willing to pay a reasonable price for such care.

Then, too, the doctor will want to see you every three to four weeks or perhaps even more often as pregnancy advances in order to examine urine and take blood pressure, in order to watch your weight, and in order to note the baby's position and to make any corrections or plans called for. Only in this way can he remain in full knowledge of your condition as the baby is developing, and it is in just this way that he can forestall any serious complications. And so, when your doctor asks this of you, he is not doing it to increase his number of office calls, but is taking good care of you. Moreover, he will help you to decide whether to go to a hospital or to stay at home for the baby's birth. A few years ago it was the trend to go to the hospital; now it appears that if you have the service of a well qualified physician and adequate aid at home it is safer for you and the baby to stay at home, especially when there are no unforeseen complications.

Now the doctor is not the limit of your calling



list! The very next person for you to call upon after you discover your pregnancy is your dentist. "A tooth for every child" is an old, old adage, true once because there was not prenatal care, but never necessarily true now. Let your dentist take care of your teeth, repairing as needed, advising you as needed, without fear. And then you will want to eat those foods which will save your teeth and at the same time insure good bones and good teeth for your child—your daily milk, the fresh green vegetables, eggs, fruits, whole grain foods. For if you fail to supply these needs of your child through food, nature will supply them from your own body. In addition to this, teeth should be brushed after each meal and the mouth well rinsed.

I'd like to present yet one more individual for your calling list—and that is yourself. Take time for a little visit with your own self, and face squarely your own attitude toward this glory which has come upon you. For one of the objects of prenatal care is to keep the mother happy. If there is a fear, or something you do not understand, perhaps because it is your first baby and because no one has ever told you, go to someone in your community who knows and whom you trust—perhaps it is your doctor—and find out. If there are other situations which disturb, perhaps you with your husband or family together can study the situation and find some satisfactory and happy adjustment. I earnestly believe that a visit with your inmost self is a thousandfold worth the effort.

And after your calling list is completed, there is a veritable host of little things that come in your round of daily living which do much for you and your baby. Your doctor will tell you what they are and will help to keep you reminded of them. But the main responsibility in their doing lies with you. Shall we take a brief look at them?

There is your food. You will want enough to satisfy your needs, but there is no need to eat an immense quantity; rather the need lies in the quality. You will want your minerals to build up the bones and teeth of your child—greens, milk, eggs, fresh fruits, whole grain foods. You will want vitamins in sufficient quantity to keep yourself and your child well—green and fresh foods, butter, cod liver oil. Enough carbohydrate, protein, and fat to meet your require-

ment, but never enough to overload your digestive system or to raise your weight excessively.

One of your chief organs of elimination is the kidney; it is one of the processes most affected by pregnancy, and that is the reason the doctor so closely watches your urine. Elimination by bowel, too, is often affected; constipation can usually be corrected by diet and exercise and by the aid of your physician. Take no cathartics save upon the advice of your physician.

The skin is another of the organs of elimination, and so calls for extra care in cleanliness. There should be a daily bath, sponge, shower, or tub. In the later months a tub bath is advised against because of the danger of dirty water entering the birth canal. A hot bath and a douche are never to be taken unless ordered by the physician. The nipples, especially in the later months, require care in cleanliness, and if hardened, cracked, or fissured should be cared for by the doctor; daily washing with soap and warm water, followed by a gentle anointing with olive oil is usually sufficient to keep them in good condition.

And just as our skin requires frequent cleansing, so, too, do the garments which we wear next to the skin. Undergarments should always be kept clean and fresh. Tight clothing should not be worn, and all clothing should hang from the shoulders to avoid constriction of any part; garters, therefore, should not be worn. Corsets should be supportive from the bottom up, and the corselet, which pulls down from the top over the breasts and abdomen, should be discarded. Shoes which have low, broad heels are the least tiring and tend to avoid injury by falls or stumbling.

Rest and sleep should be adequate, including the mid-afternoon nap habit. Exercise should be plenty and enjoyable, but never extreme. And don't forget the sunshine!

There are yet a few warning signs I'd like to tell you about. If there is any bleeding, at any time, after inauguration of pregnancy, an examination by your physician is warranted. If there is any dizziness, any spots before the eyes, any headaches, any vomiting or nausea, any swelling of face, legs, or feet, go see your doctor. If urine is scanty or painful in voiding, see or call your doctor at once. Avoid all colds and contact with colds, for colds may go into

influenza or into pneumonia, and both are exceedingly hostile to both mothers and babies. If you do contract a cold, do not hesitate to go to your doctor for treatment.

And so throughout your pregnancy, from beginning to end, and for whatever questions or emergencies may arise, let this be your motto—*go see your doctor*. Then you are doing your part in the practice of good obstetrics, and only so can the doctor do his part in the prevention of our needless maternal deaths. And so, too, do you insure the best possible birthright for your unborn child.

## ENDOCRINES AND OPHTHALMOLOGY

With Reports of Cases of Exophthalmos and Cataracts Following Thyroidectomy

LOUIS BOTHMAN, M. D.\*

CHICAGO

The study of the endocrines and their dysfunctions is one of the most fascinating chapters in the realm of medicine.

It is not my intention to completely review the subject, or to even more than mention the diseases produced by endocrine dysfunction in organs other than the eye. We shall limit our discussion entirely to the relation of endocrine dysfunction to the eye.

*Hyperthyroidism.* The first and most important of the glands of internal secretion is the thyroid and we shall deal first with its hypersecretion as is manifested in exophthalmic goiter, Grave's disease or Basedow's disease. This should really be called Parry's disease as it was first reported in 1825 by Parry in a paper called "Enlargement of the Thyroid Gland in Connection with Enlargement or Palpitation of the Heart." The eye symptoms commonly seen with goiter occur in the so-called toxic adenoma.

Retraction of the upper lid is seen earlier and more frequently than is exophthalmos. It may be unilateral or bilateral.

The wide retraction of the upper lid has some orbicularis tension which affects it and accounts for the staring, difficulty in everting the lids, infrequency of blinking, tremor on closing, and

secondarily for photophobia, lacrimation and catarrhal conjunctivitis.

Retraction of the lid is relieved by thyroidec-tomy.

As far as endocrine exophthalmos is concerned (for we know that exophthalmos does occur with hypertension and increased intracranial pressure, etc.), it is present only in cases of hypersecretion of the thyroid. If there is no toxicity, there will be no exophthalmos. Rudemann says, "We have never had a case of unilateral exophthalmos in a case of hypersecretion. All cases of unilateral exophthalmos have been the pseudo type, due to unequal or unilateral retraction of the lids." Rudemann further states that there is no relation between the degree of toxicity and the amount of exophthalmos. In 1,000 cases, he found the high normal of 20 mm. of protrusion.

That the optic nerve is frequently involved in the severe forms of exophthalmos is familiar to all for optic neuritis is not infrequently seen when the eye protrudes 25 mm. or more. Standish has reported this condition in patients who were taking thyroid extract for obesity and Birch-Hirschfeld found optic atrophy and degeneration of the ganglion cells of the retina in dogs fed with thyroid extract. Krauss reported a case of a 23 year old male who developed papilledema eight weeks after thyroidectomy.

The occurrence of exophthalmos following thyroidectomy, and cases in which the condition increases after operation while uncommon are familiar to all of us. Many such cases are operated on a second time. This should not be done as most of these cases have an hypothyroidism. In these cases we frequently find a low metabolic rate, edema of the upper and lower lids which we see in myxedema; no widening of the palpebral fissure except that mechanically due to the exophthalmos; no staring, no trouble everting the upper lids, but there is a convergence weakness. The treatment for such cases is thyroid extract. In Rudemann and Crile's experience patients with such findings did not have marked toxic signs before operation, high B. M. R. or a fast pulse rate. They did have all the other signs. This is the group they classify as suprarenal disturbances. Crile had sixty cases which simulated exophthalmic goiter except for the exophthalmos.

\*From the Division of Ophthalmology, Department of Surgery, the University of Chicago, Dr. E. V. L. Brown, Director.

\*Read before Section on Eye, Ear, Nose and Throat. Illinois State Medical Society, Peoria, May 17, 1933.



Denervation as reported by J. Lehman helps these cases, while thyroidectomy does not.

In the true Graves' disease, we see external and superior rectus paralyses, usually the right, which do not disappear after thyroidectomy and must be corrected by muscle operations. In six of Rudemann's cases, the condition was found to be overcorrected later. The convergence weakness persists and disturbs reading and near work for many months. The condition must be treated by prisms and exercises.

The following three cases of exophthalmos which developed after thyroidectomy where none was present before operation and a fourth case in which the exophthalmos became worse after operation are briefly outlined.

1. Mrs. Z. S., 38391, aged 44 years, was first seen in Eye Clinic 7-7-32 because of an unequal exophthalmos appearing eleven months after thyroidectomy. While on the surgical service three days before operation the exophthalmometer readings were right and left 14 mm. and convergence was good. Eleven months later there was right and left (Hertl) 19 mm. with a divergence under cover, and tiring and headache after one-half hour's reading. The discs were normal and the vision with weak minus lenses were right 15/10 plus 1, left 12/10-3. There was a slight von Graefe sign more noticeable in the left eye. This patient had 5 mm. increase in the exophthalmometer readings, a convergence weakness and Von Graefe sign all appearing after operation.

2. Mr. P. H., aged 52 years, 46883, was first seen 9-25-31 when he said that he had been operated on for exophthalmic goiter in November, 1930. Five months later the exophthalmos began to grow worse and ten months later a canthotomy was done with no improvement. The left vision was always poor but the right vision is still good. There was a very marked exophthalmos in both eyes right 33, left 28 mm. The conjunctiva was cherry red and chemotic. There was limitation of adduction of the right eye. The discs were hazy, pale and their bloodvessels dark, tortuous and overfilled. There were numerous petechial hemorrhages on the discs. The maculae were normal. Right vision 4/10 plus 1, left vision 2/10. The BMR was plus 30. It had been plus 105 before operation. The patient had been taking Lugol's Iodide. On 9-29-31 the exophthalmos was right 30, left 25.5. The right eye could be elevated 15 degrees; abducted to ten degrees; adducted 35 degrees and depressed 35 degrees. Convergence was poor. The fundi remained unchanged. Both blind spots were enlarged. On 9-25-31 a bilateral cervical sympathectomy gave slight improvement for a few days and the eyes then returned to the pre-operative state. BMR was -9%. On 10-10-31 exophthalmometer readings were right 29, left 25. The corneae were still normal. On 10-15-31 the roof of the right antrum was removed with no effect on the exophthal-

mos. The vision was poorer. On 10-29-31 right plus 2.25 = 6/10-3, left plus 200 = 3/10. Exoph. right 30, left 25.5 mm. 11-7-31 the only change was slight right corneal haziness. 3cc pitrussin was given intramuscularly. Celluloid shield was used to protect the cornea. This treatment was continued with little change in either eye except slight reduction in vision to right 3/10-1, left 2/10 with glasses. 3-2-31 right plus 3.00 = 6/10-3, left plus 3.00 plus 2.00c20 = 5/10-2. The left disc was swollen  $\frac{1}{2}$  D and pale in temporal  $\frac{1}{2}$  and there were no hemorrhages; right disc  $1\frac{1}{2}$  P.D. swelling with fine hemorrhages temporal to it.

On 1-21-23 the right lids were sutured and a right orbital decompression (Naffziger operation) was done and a piece of external rectus muscle excised for study. This showed the typical findings described by Naffziger. On 1-30-32 Exoph. right 26.5, left 26. 10-12-32 right plus 2.00 plus 1.00c90 = 8/10-2, left plus 2.50 = 6/10. Still has diplopia since operation. Schiotz right and left 27.5 mm (with contraction of lower left peripheral field to 30 degrees). 1-11-33 right vision 6/10 plus 3, left vision 6/10 plus 3. Diplopia was less annoying. Exoph. right 28.5, left 26. 3-14-33 right plus 2.50 = 8/10, left plus 2.00c10 = 8/10 plus 3. Exoph. right 27, left 26.5. Could get single binocular vision. The peripheral fields were essentially normal. The discs were both definitely pale.

This is a case with very severe exophthalmos which was not helped by endocrine therapy, cervical sympathectomy and removal of the roof of the right antrum and showed only a difference of 3 mm. in the right exophthalmos after the Naffziger operation. The left side had only a cervical sympathectomy and the exophthalmus on that side remained practically the same.

3. Mr. R. L. M., aged 40, had an hyperthyroidism without exophthalmos with a BMR of plus 80 and a pulse of 128. On the day following the thyroidectomy, the skin of his lower lids became swollen and three weeks later the globes became prominent. Four months later his BMR was -16%, pulse 66 and he had gained weight. His vision was 12/10 in each eye and the fields were normal. The skin of the lids was "puffy" but there was no chemosis and the exophthalmometer readings were 20 mm. The discs were of good color and had no hemorrhages. The veins were very dark and the ratio of veins to arteries were two to one. There was  $\frac{1}{2}$  D of left hyperphoria and a marked convergence weakness. He also had tenderness on looking to the left and a very slight von Graefe sign. Three years later I have been informed that he had gone to New York after my last observation and subsequently developed ulceration of one cornea and had the lids of his other eye sutured to prevent ulceration of that eye.

4. Mr. J. L., aged 50, had a toxic goiter with slight exophthalmos. A thyroidectomy had been done four months previously and for two months his eyes were more prominent and red. For six weeks lacrimation had been annoying. With weak minus lenses his vision

was right 15/10-4, left 10/10. The temporal half of both discs were slightly pale. The peripheral fields were uniformly constricted about 15 degrees. The conjunctiva of all lids and both globes were injected and there was marked chemosis of both lower lids. The exophthalmometer readings were right and left 24 mm. There was slight limitation of motion in all directions but no diplopia. The convergence was very weak. The patient was seen several times during the course of one year during which time his condition was unchanged. Four years later I have been informed his condition remains the same except that the tearing and redness is less marked.

Of these cases one could not be followed. Two have remained stationary on medical management while the fourth which was subjected to much radical surgery has remained stationary, retaining good vision a year following the surgical procedure.

*The Thymus.* It might be well to discuss the thymus in connection with the thyroid since there seems to be a definite relationship between the two glands.

Garré found that in 95% of all cases of malignant Graves' disease, this gland was enlarged and in such a condition signs of its hyperfunction would be masked by those from the toxicity of the thyroid.

Implantation of the thymus has been shown to cause pure cases of Graves' disease. When thymectomy is done for cases of toxic goiter, all general symptoms leave and only the eye symptoms remain.

Von Mickulicz and Rehn and Garré have shown the relation of the thymus to toxic goiter and the latter advised thymectomy first in all cases of Graves' disease. Halsted's case of exophthalmos which remained after ligating the large blood vessel to the thyroid but disappeared after x-ray of the thymus contributes further evidence of the associated function. Von Haberer reported an extreme case of hyperthyroidism unaffected by thyroidectomy which became normal after thymectomy, while Eppinger, von Haberer and Garré believed that the thymus is responsible for von Graefe's sign, the wide palpebral fissure and tearing. Souter says, "The preponderance of female cases in Parry's disease is in agreement with the admitted relation of the thymus to the gonads."

In cases of status thymo-lymphaticus, follicular conjunctivitis is seen and is located along the plica and the adjacent bulbar conjunctiva.

*Hyposecretion of the Thyroid.* Hyposecretion of the thyroid may lead to eye diseases which are almost insignificant while in severe cases we see the typical picture of myxedema.

In experiments on dogs, Gley and Rochon DuVigneaud found after thyroidectomy, dense corneal opacities, ectasia and superficial ulceration along with acute blepharitis and profuse lacrimation. Halsted noted conjunctivitis and blindness without fundus changes. Edmunds mentions unilateral and bilateral interstitial keratitis following complete removal in animals as does E. Fuchs while Treacher Collins reported a case of central keratitis which cleared on using thyroid extract.

Other eye conditions seen with myxedema according to E. Fuchs are choroiditis, optic neuritis, optic atrophy and cataract.

Bordley and Risley showed the relation of hypothyroidism to so-called malignant uveitis and the former mentioned that the condition had previously been noted by Demets. They did not believe that thyroid deficiency was the cause of uveitis but that the use of thyroid extract caused an accelerated metabolism and thus improved the condition. Risley too, believed that interstitial keratitis was in some way due to reduced function of the thyroid.

Wagner thought that impairment of hearing in cretinism was due to edema of the Eustachian tubes which may accompany edema of the lids. Lissner observed that the effect of homatropine lasted longer in patients with deficient thyroid function.

In 1928 Goulden reported on lens changes, loss of the eyebrows, parenchymatous keratitis and chronic glaucoma associated with mild cases of myxedema. He said, "Astigmatism seems to be fairly frequent and sometimes myopia."

Vitezslava showed the relation of thyroid to corneal diseases in cases of familial nodular degeneration with enlarged thyroid but no toxic symptoms.

Torok and Redway reported three cases of keratoconus with low metabolic rate, rarefaction of the bones of the skull, low blood calcium, and hypofunction of the thyroid. Siegrist reported nine cases and Souter that of a girl of 28 years with —11 BMR with keratoconus.

Rudemann reported, "In a group of children with progressive myopia but otherwise normal,



we found very low dextrose tolerance curve and a low BMR."

In my series of 68 cases of progressive axial (school) myopia, I found a low basal metabolic rate, half of the cases being less than minus 15% and in a surprisingly large percentage of these when they took small doses of thyroid regularly over a long period of time, we were able to arrest the progress of the myopia.

Weiss and King recorded twenty-six cases of edema of the lids of unknown origin. All of these cases were found to have a low BMR and when given thyroid were relieved of the edema and otherwise generally improved.

In myasthenia gravis with which we find a low BMR and hypothyroid symptoms we commonly believe that there is a weakness of the skeletal muscles. Abraham showed in 5 cases that as far as the extraocular muscles are concerned, this is not true, but that when testing with the phorometer, he found the inferior and superior recti muscles were much stronger and overcame far higher degrees of prism than do these same muscles in healthy individuals.

*The Parathyroids.* The role of the parathyroid glands in calcium metabolism and tetany is well established. There is both experimental and clinical data to support the belief that calcium metabolism is stabilized in some way by the normal function of these glands and that convulsions and tetany as well as cataracts follow their removal. Escherich found changes in the parathyroid on post mortem examination of children with zonular cataracts and bad teeth.

Hiroishi (1924) showed that cataracts developed in parathyroidectomized rats. That they developed in complete and total thyroidectomy in animals when the parathyroid was removed with the thyroid is well known. On the clinical side, complete removal including the parathyroids causes tetanic convulsions and cataracts. Five such cases seen during the past five years are here reported. Scar tissue by its contraction cutting off the blood supply to the parathyroids causes the same condition. These patients have not only low metabolic rates, tetany and cataracts, but low blood calcium and phosphorus as well. Rudemann had 10 cases of cataracts in 150 cases of bilateral thyroidectomy.

Hesse and Phelps (1913) showed definite

tetany in 81% of 43 cases with lamellar cataracts and Schönbrun 8 in 41 cases.

Fischer and Triebenstein (1914) showed latent acquired tetany in 60 of 68 cases with senile cataract. There was not a single history of infantile convulsions in this series.

Kirby reported that the blood calcium was within the upper limits of normal in such cases and parathyroid extract was of no avail in treatment of this or any other type of cataract. His tissue culture experiments showed that lens tissue will tolerate any concentration of calcium without change but showed very definite changes in its absence.

In myotonic dystrophies, there are cataractous changes in the lens which resemble tetany or parathyroid cataracts. In the 38 cases reported from Tübingen, 28 had cataract which resembled the lens changes of postoperative tetany cataracts. They had low blood calcium and hereditary atrophy of the testes and sterility.

Heine had 5 cases of myotonic dystrophies with cataracts and tetany cataracts in three cases with thyroidectomies. In ten myotonic cataracts, 3 were in females.

Nordmann (1921) reported a case of myotonic atrophy with cataract in a 31 year old male and he believed there is a definite relation to tetany in cataract.

Buchanan in 1903 showed that in blue sclera and fragilitas ossium the cornea was one-half normal thickness, the anterior elastic lamina was absent and the sclera while of normal structure was proportionally thinner than the cornea. The ligaments of the joints were fibrous, elastic and dislocations were seen with these cases which are hereditary and familial.

Blue sclera is associated with hypofunction of the parathyroids and reduction of the blood serum calcium to one-half of the normal. Wirth in 1924 studied three generations in which blue sclera was found with otosclerosis and Golden (1925) reported the same findings in a case in which he also found pigmentary degeneration of the retina.

Schiotz presents a table which is interesting:

#### HYPOSECRETION OF—

Parathyroid—Tetany cataract  
Pancreas—Diabetic cataract  
Gonads—Senile cataract  
[Thyroid Parathyroid—Myotonic cataract]

## HYPERSECRETION OF—

Adrenals—Ergotinin cataract

Hypophysis—Diabetes insipidus cataract

Anterior Lobe Pituitary—Acromegaly cataract

Bracketed headings now added from Grönholm (1927), who divides juvenile cataract into those due to endocrine trouble and those not.

The following five brief case reports illustrate the typical development of cataracts due to parathyroid deficiency which occur when the parathyroids are removed during the complete thyroidectomy or their destruction or impairment of function by scar tissue contraction following operation.

1. Mrs. M. C., aged 23, was first seen 7-1-26 giving a history of blurred right vision. One month before she was still able to read. She had blurred left vision for one week but was unable to read with the left eye for the past two days. When examined she read large type very slowly with the right eye. She had had a thyroidectomy seven months previously. This was followed by tetany for which she was taking calcium lactate. The best corrected right vision was 6/10-2, left 20/200. The pupils dilated to 8 mm. with homatropine. The right red reflex was good. Throughout the entire lens were fine granular opacities. There was a sheet of thin granular fawn colored opacity beneath the posterior capsule. The left lens was diffusely gray and opaque but light projection was good in all quadrants. When seen last, the left cataract was almost mature. The right was rapidly becoming opaque. A left cataract extraction was advised but refused by the patient.

2. Mrs. J. M., aged 42, was first seen 11-15-28. She had thyroidectomy two years previously and came in for progressively decreasing vision, pain in her left eye and occasional temporal headache. Before her thyroidectomy her BMR was plus 51 and pulse 118. The best corrected vision was right 6/10, left 4/10. The left lens had a dense granular diffuse subcapsular opacity with few punctate dots in the cortex. The right showed a similar but less advanced condition. The fundi and tension were normal. This patient was not followed because of absence from the city and I have heard no further report from her.

3. Mrs. H., aged 42, had had a toxic goiter removed five years previously. Her vision had failed gradually starting about one year after her thyroidectomy. Three years after the operation she had lost vision in both eyes and both lenses had become completely opaque. Cataract operation had been done on both eyes. I did not see this patient before operation. Her corrected vision was right 0.3, left 0.8-plus 3.

4. Mrs. E. R., aged 32, was seen 12-6-28. She gave a history of a thyroidectomy two years previously. Her vision began to blur 17 months after operation and had gradually grown worse so that the best corrected vision when first seen was right 3/10, left 1/10. She had had no tetany. Both lenses but especially the left had fine granular pigmented posterior subcapsular deposits involving the entire posterior portion of the lenses. There

were similar but less pronounced and greyish opacities beneath the anterior capsule. There were fine granular riders in both cortices of both lenses. The fundi, fields and tension were normal. On 4-3-29 the left lens had a dense sheet of fawn colored posterior subcapsular opacity. The right lens was unchanged. The vision in the right eye had been reduced to finger counting at six feet on 2-4-30 so that a cataract operation was advised. At the time of operation the lens had become uniformly gray and only hand movements could be seen. She made an uneventful recovery and when last seen on 1-10-33 her corrected vision on the right eye was 20/10-2. The left lens has now become completely opaque. She has been advised to have a cataract operation on the left eye.

5. Mrs. E. M., aged 44, first seen on 11-1-28 said that she had had a thyroidectomy eleven months ago for toxic goiter. Her BMR was plus 48. Following operation the patient developed tetany and signs of parathyroid deficiency and the BMR was -18 per cent. She was given thyroid gr. vi and four drams of calcium lactate daily. Her vision gradually diminished and on her first visit was right 1/10, L 8/200. Corrected right vision—3/10-1, left—6/10. Then lenses showed typical gray, fawn colored sheet of opacities beneath the posterior lens capsule. When seen on 6-7-29 her corrected right vision 8/200, left 2/200. The lens opacities were more diffuse and she was advised to have a right lens extraction. She failed to return to the clinic, until 5-15-33 when her R lens was completely opaque and the left subcapsular sheet of opacity more dense. The anterior cortical riders had become more numerous. The nucleus was thin and clear. The tension was normal. She still had occasional attacks of tetany in spite of the fact that she was taking thyroid extract gr. vi and calcium lactate drachms 3 daily. She was advised to have the R cataract removed.

Of these five cases only four were seen before the cataract extraction so that the type of lens changes could be described. Of the remaining four cases two had tetany following their thyroidectomies. Two developed their lens changes without any previous tetanic convulsion. All had lens changes appearing first beneath the posterior capsule. These were a light tan or fawn color in which a greenish tinge could at times be seen. This opacity appeared first in the pupillary portion of the lenses and later involved the entire posterior region. The dotlike cortical opacities which are seen first in animals following complete thyroidectomy do not appear clinically until a later date. I have not seen the subcapsular opacities in experimental animals. These cataracts go on to maturity in a comparatively short time and are operated on with as good results as are seen in mature senile cataract.

*The Pituitary Gland.* Whether pure hyper,



hypo or dysfunctions of either lobe of the pituitary gland can cause scotomata or other field defects is a question. Benedict is of the opinion that toxicity in pituitary disease may cause changes in the optic nerve and secondarily field changes while others are of the opinion that field changes can all be satisfactorily explained by the mechanical pressure theory.

Haden recently reported a classical case of hemisection of the chiasm for removal of a pituitary tumor. That the visual disturbances were due to deficient pituitary secretion was shown by the marked improvement when glandular therapy was employed and the severe impairment when it was discontinued.

Elsberg and King's case of pituitary deficiency with field defects which were altered after decompression showed marked enlargement of the fields after four months of treatment with pituitary extract.

Tumme's case of impaired vision, limitation of fields and pale discs had normal fields and vision after two years while getting pituitary and thyroid extracts on alternate days.

DeSchweinitz and How reported a case with pale discs, right paracentral scotoma and later showed bitemporal hemianopsia, impaired central vision and enlarged sella turcica which after  $2\frac{1}{2}$  years of thyroid and pituitary extracts had normal fields and vision.

The typical field picture of bitemporal hemianopsia due to enlargement of the gland with pressure on the chiasm is familiar to us all.

The question of field changes in pregnancy is in debate, but Findlay told me recently that he found field changes in all cases examined after the seventh month when the gland enlarged sufficiently to press on the chiasm. X-ray findings of the sella in pregnancy are normal.

Whether pituitary headache is due to increased secretion or pressure and traction is in dispute and the x-ray findings of the sella are variable.

Dr. Cushman has found field changes in such cases and noted improvement with gland therapy and x-ray.

The linking of the pituitary gland with Leber's optic atrophy, migraine, polydactylism and pigmentary degeneration of the retina is still unproved and this gland's relation to pigmentary changes in the skin is also in dispute. Treatment

of these conditions with pituitary extract has not improved any of these conditions.

*The Pancreas.* The pancreas and its product insulin play an important role in normal metabolism. Due to its disturbances, we may see the usual retinitis, optic neuritis and cataracts. Less frequently occurs iritis with alteration in the retinal epithelium of the iris, lipæmic retinitis, paralyzes of the extrinsic muscles, paralyzes of the intrinsic muscles, and changes in the refraction of the eye. The ocular tension is low in diabetic coma and injections of insulin may alter both the systemic blood pressure as well as intra-ocular pressure.

*The Suprarenals.* The suprarenals or adrenals by their secretion may alter blood pressure and intraocular pressure. Knapp showed that adrenalin dilated the pupil in eyes with prodromal glaucoma, this susceptibility is present before any other signs of the disease. Imre has written that this adrenalin reaction along with Koeppe's wandering pigment can be looked upon as a sure sign of pre-glaucomatous condition. The suprarenals have been shown to have some influence on pigmentation of the skin as is seen in cases of Addison's disease. Their dysfunction produces pigmentation of the skin of the lids and of the conjunctiva as was first shown by Loewi. Uthoff described keratitis seen in cases with Addison's disease. However, ovarian disease and thyroid disease also cause pigmentary deposits and even the pituitary is said to be responsible for pigmentary changes. When pituitrin causes such changes, it is probably due to the inclusion of the pars intermedia when making the preparation.

*The Gonads.* The relation of the gonads to the eye is not well known. Iritis cases do occur in women with attacks showing a definite relationship to the menses or climacteric. Abderhalden showed that extracts of testes and thyroid affect the pupillary reaction.

Siegrist believes that senile cataract bears a very definite relationship to the gonads, "just as definite as does diabetic cataract to the lack of insulin."

Nordmann reported a case in which bitemporal hemianopia followed bilateral oöphorectomy, but this is an isolated case and no one has added anything to support it.

Edema of the lids, tearing and conditions re-

sembling vernal catarrh follow castration in boys. The condition is helped by thyroid extract.

*Glaucoma and the Endocrines.* The relation of glaucoma to general diseases had been and is being studied. There seems to be some relation to the glands of internal secretion. In toxic goiter the intraocular pressure is unstable and the dilatation of the pupil in this condition has been shown to have definite influence on cases of incipient glaucoma.

Ovarian extract and corpus luteum cause a rise in blood pressure and indirectly cause a rise in intraocular pressure. Intraocular pressure is low during pregnancy and hyperfunction of the hypophysis. The pituitary gland we know from Erdheim and Stumme's report, is enlarged in pregnancy. Conversely, hypophyseal tumors with lessened secretion of the gland has caused increased intraocular pressure. Suprarenal extract, by increasing blood pressure, influence glaucoma. On the other hand, local application of the extract may decrease intraocular tension. Insulin causes a drop in tension in glaucoma. The eye tension is usually low in diabetes. In osteomalacia the tension of the eyes is less than normal even lower than after death.

Imre studied the internal secretory mechanism in glaucoma and concluded that "Patients with glaucoma in an overwhelming majority of cases have an endocrine disturbance and organotherapy has a decided specific effect on the eye tension in these persons."

*Migraine.* Migraine seems to be related in some way to the endocrines. It is seen in cases with instability of the thyroid and in cases of hypophyseal dysfunction. Spasm of the retinal blood vessels and signs of spasm in the vessels of the occipital lobe have been noted during attacks. Perhaps some of the glands which cause vasoconstriction and increased blood pressure are responsible. We know that attacks often occur at the time of the menstrual periods and many women cease to have attacks after the climacteric.

*The Lacrimal Glands.* We have not been accustomed to include the lacrimal glands with endocrines. We may have to place them in such a category.

Recent researches of Michael and Vancea on the internal secretion of the lacrimal glands lead them to conclude that the gland produces a substance which is a powerful vasoconstrictor, and

cardiotonic. It stimulates uterine musculature, respiration, urinary secretion and reduces the metabolism of sugars and fats. They also report that extract A accelerates and B inhibits oxidation. These produce polyglobulism with leucocytosis, reduce the resistance of blood cells, and metabolism of calcium and phosphorus. This occurs at the same time with a reduced hydrogen ion concentration and diminished water metabolism in the tissues. The extracts also accelerate cicatrization of wounds and stimulate growth. This work appeared about a year ago and is still incomplete and unconfirmed, but is certainly interesting.

From this short resume of the existing knowledge of the subject and our personal experiences with endocrine disturbances, we can only conclude that there must be an inter-relation or balance between all the endocrines, and that any disturbance of the balance leads to symptoms which need not always respond in the same way because of the other general factors present in the individual patient.

122 S. Michigan Ave.

#### DISCUSSION

Dr. Beulah Cushman, Chicago: Congratulations are due Dr. Bothman for bringing this important subject to us in such a clear and concise manner. It seems that sometimes we can almost forget in the practice of ophthalmology that the eyes are really a part of the body, and a paper is appreciated that emphasizes the relations of general metabolic conditions to the ocular findings.

Dr. G. W. Crile, in an address before the Chicago Medical Society, recently spoke of the difference in the relative size of the glands of internal secretion in animals up through the scale of development, the thyroids and pituitary becoming larger in man in proportion to the adrenals, the adrenals being much larger accordingly in the animals. This difference he suggested may account for the development of the intelligence, and it also may account for the hyperthyroidism, hypertension and the vascular diseases which are so common in man. It also may be some of the reasons that experimental animals give reactions which cannot be duplicated in man. So the clinical studies retain their importance.

In addition to the clinical studies made by Dr. Bothman on the thyroid, I want to report a study made of headaches in the past six years found in ten cases to be due to functional disturbances of the pituitary. These headaches are characterized by periodic attacks which may be frontal or occipital and referred to any part of the head. They occur most frequently in women, and are often instituted during adolescence, pregnancy or at the menopause. The attacks may last



for a few minutes or for forty-eight hours or longer, and frequently are present on awakening in the morning. Nausea is seldom present. In most of these cases the attempt to use the eyes for near work was distressing, and simulated ciliary spasm. One patient had not been able to use her eyes for near work for over twenty years without precipitating a headache. The study of the visual fields in this patient suggested some chiasmal pressure. The internist reported some of the common findings of a hypopituitarism and with the administration of antuitrin "S" the headaches disappeared. She reported recently that she has had no headaches and can use her eyes with no discomfort if she continues to take the antuitrin twice a week.

Another patient, a telephone operator 33 years of age, mother of four normal children, complained of premenstrual frontal headaches which had been present for fifteen years, gradually becoming more frequent until they were almost constant. The pain increased in severity with the use of the eyes for near work. She had always been very strong and able to care for her four children and work for the telephone company until the previous year, when she began to suffer from severe fatigue after any simple work. A headache seemed to be precipitated by fatigue. She was extremely irritable. An hysterectomy had been done seven years previously for fibroids. The general physical examination and sinus plates were negative. The pupils and fundi were normal. The visual fields showed a slanting off of the superior temporal quadrants for color, and there was no constriction of the form fields. There was a relative central scotoma for one-half degree green. Roentgenogram of the sella was normal. She reported improvement after the roentgen picture was made, and with pituitary extract given by the internist in the form of Antuitrin "S" for one year, she was free during the medication and has remained so since that time.

All findings in the ten cases point directly to the pituitary gland as the common factor. The cases fall apparently into three groups, first, those with symptoms due to simple distension of the capsule during the physiological hypertrophy, and second, those, with symptoms due to dysfunction, and a third type combining symptoms of distension in a small sella and dysfunction of the hypophysis.

In summarizing, certain periodic attacks of headaches and discomfort of the eyes simulating ciliary spasm may be due to dysfunction of the organically sound pituitary gland or the distension of its capsule by physiological hypertrophy; also, the majority of the visual fields show a contraction of the superior or temporal quadrant for color and varying changes in the form fields.

Dr. Harry Woodruff, Joliet: I would like to say a word about one part of this subject, the question of the treatment of myopia. Probably all of you are familiar with the suggestion of Mayer Wiener, regarding the use of drops of adrenalin in the conjunctival sac in myopia. That attracted my attention some time ago, and then later Dr. Bothman's observations on the low metabolic rates in myopia. While I can offer nothing in the way of a positive statement regarding the

subject, I do feel myself that the ophthalmologist is neglecting a case of myopia if he fails to take into account the possible lack of endocrine secretion in myopia. I have lived long enough to see cases of slight myopia develop into the higher grades. I have one case in mind, a teacher in school, who had, I remember, the habit of pushing the lenses of her glasses close to the eyes to increase the power. Many years afterward when I saw her professionally she was blind, with glaucoma, but I feel sure that the original trouble was gradually increasing myopia.

It is a great step forward in the treatment of myopes if they can be said to have some glandular dysfunction as a basis. It is not the only factor, of course. I started the use of adrenalin drops and have used them more or less consistently for some time, also having basal metabolic rates made on these patients as frequently as possible. I do not confine this treatment to children, but also give it to young adults. There has always been a considerable proportion of minus B-M-R—considerably more than plus. We are told that a variation of 15 degrees is not significant. I am not sure about that. The proportion would run something like this—in sixty cases fifty would have a minus rate, not high minus, all of them, but minus. In these cases which have a minus rate below 15, I had them take thyroid extract. I do think I have secured results with the use of adrenalin drops in the eye, and where the minus rate was below 15, by the use of thyroid extract also.

I feel that I am safe in making the statement that you can do a lot more now to prevent the progress of myopia than you could formerly. Myopia is sometimes classified as progressive, but of course patients do not start life with myopia, so that all cases are or have been progressive at some time. I presume it is a common experience to have myopic patients who do not develop myopia until they reach high school age. They never reach the high degrees of myopia, but it is an advantage to have as little myopia as possible. Cases that begin early in childhood, when the child first begins school, are dangerous. It is not always easy to get the co-operation of the parents in having examinations made yearly or twice yearly, with the results recorded, but where it can be done I believe the extreme cases of excessive myopia can be a thing of the past.

Dr. Irving Muskat, Chicago: We must admit that the endocrines have a decided influence on the general health, and presumably on the general system and some inter-relationship between themselves. We also must admit that the final note has not been sounded as to the relation of these glands to other organs outside of some definite facts. One of the most interesting things is the progressive exophthalmos that sometimes results after the removal of the thyroid gland for exophthalmic toxic goiter. Not long ago there was a case in Chicago which showed such a progressive exophthalmos after thyroidectomy for exophthalmic goiter. Much discussion ensued regarding the therapy and the progressiveness of the exophthalmos. I do not know what finally was decided nor the outcome of the case but it has

drawn much attention to this subject. About a year ago I had occasion to review the literature on this subject and one author enumerated all the references and reported a case of his own. In that article he showed that thyroid extract and adrenal extract had been used, but none of these drugs or procedures have been of avail in arresting the condition. Anterior pituitary was used for quite a while with maximal recession of the exophthalmos.

Regarding Dr. Bothman's work on children, I have wondered what his idea is regarding the basal metabolic rate in these cases. His work was done in children, and he reports a negative or minus metabolic rate. I should like to know whether most growing children do not tend to have a minus metabolic rate.

Much has been written regarding migraine. There is no doubt that a fair percentage are due to allergy, but just what role the endocrines play is still a matter of conjecture.

Dr. Elias Selinger, Chicago: Regarding the subject of progressive myopia. A good deal has been written about this, particularly about the etiology and treatment. Many cases of school age myopia stop spontaneously. Domez wrote that the pathology was in the under development of the ciliary muscles, and his idea was to stimulate the ciliary muscles by eserine to increase their development. Others held the theory that too much accommodation was being exerted and they treated patients with atropine over a period of years, with equally good results. Another theory is that myopia of the progressive type is probably secondary to increased intraocular tension, and the advocates of that theory say that the reason we get an increase in the antero-posterior diameter of the eye is that the sclera in childhood is more yielding, therefore an increase in the intra-ocular pressure stretches the eyeball rather than causes a recession of the lamina cribrosa as in the adult. Heredity is an all important factor in the development of myopia but general causes, and among them disturbances of the endocrine system, need to be carefully investigated before definite progress in the problem of myopia can be looked forward to.

Dr. R. H. Woods, LaSalle: I would like to add one thought to this question of progressive myopia. There is a close relation between convergence and accommodation, and we should investigate the subject a little further in progressive myopia. I hope to be able to report in another year some work I have been doing along this line.

Dr. W. A. McNichols, Dixon: I am very thankful that they did not feed me thyroid extract when I was a youngster even though I did have a mild case of progressive myopia. I went to a good oculist and he fitted me with glasses and about a certain age my myopia ceased progressing. I think Dr. Bothman's paper is very interesting, but I think we should not be too enthusiastic about giving thyroid, especially in children who may have a mild degree of myopia that progresses.

Personally I have thought that the sexual development has something to do with myopia. It comes on

children 6 or 7 years of age and progresses up to the age of 20, and tends to slow up after that. There is no way to prove it, but I have always thought there was a connection.

Dr. Louis Bothman, Chicago (closing): I wish to thank all the members of the Section for their discussion, particularly Dr. Cushman. We should be very grateful to her for the preview of the paper she is to give at the American Medical Association Meeting in Milwaukee.

Dr. Woodruff opened the myopia discussion. I was glad to learn that he has found low basal rates in his progressive myopia patients. In the paper as presented there were about four lines about my own work on myopia, and I did not mention anything about dosage of thyroid at all. Dr. Novak's figure of 5 grains was from the case report of the medication by the internist in a patient with postoperative tetany and cataract. I said that in the sixty-eight cases previously reported the verage basal metabolic rate was minus 15 per cent. and the myopia of most of these patients I had been able to keep on thyroid extract had not progressed. This work was done on school myopia (the axial myopia) and I tried to get the patients with as low degrees of myopia as possible, in order to see if I could check it while the myopia is still low. Someone just stated that myopia usually ceases to progress when it reaches 3 diopters. That is true and is the reason why I am particularly interested in getting cases with low degree and seeing if I can check these cases by the use of thyroid extract. The study is still in progress and is not yet ready to be reported.

Dr. Muskat remarked that all children have a minus basal metabolic rate. I ran a series of twelve or fifteen cases with hyperopia in which one had a rate of 0, one had minus 3 per cent. and the others had plus rates. It may be that they were exceptional, but I do not think so. Dr. Novak said we can tell by other signs if there is hypothyroidism. That is true to a certain extent. I had observed that many myopic children were short of stature and overweight, but some were tall and thin and this group gained weight while taking thyroid extract. Sluggish mentality does not always accompany low metabolic rates. Two children in my series with rates of minus 23 per cent. and minus 25 per cent. are at the head of their classes.

It is surprising the difference the use of thyroid extract makes in children of this type and how much better they get along in school after taking thyroid. None of these cases is of the malignant type of myopia, and I do not believe thyroid has any relation to that type of myopia more than any of the other glands of internal secretion. The basal metabolic rates in malignant myopia in adults were all within a range of plus 7 to minus 5 per cent. About half the cases were minus and half plus. Dr. Mellin spoke about a patient of 22, and mentioned what Dr. Devney had said. The reason for her answer was that the study of Drs. Brown and Kronfeld showed that axial myopia ceased to progress at the age of 20; the malignant form went on. For that reason Dr. Brown is of the opinion that it does not



make any difference as far as the progress of myopia is concerned whether they wear glasses or not after the age of 20.

Dr. McNichols spoke of the relation of the sex organs to myopia. I have no evidence to support or refute that statement but in my series of 68 cases reported there were twice as many little girls as boys, and in the other series which I am now studying and have not yet reported there seems to be a preponderance of females over males. The fact that myopia occurs in both would make us consider well before concluding that the gonads were responsible. Even in this type of school myopia there is usually some family history of myopia. It is not purely an endocrine disturbance. I believe there must be some inherent, scleral weakness, or what you will, that is partly responsible and the endocrine disturbance is chiefly a contributing factor. Cases of particular interest to me are those which have previously been refracted and an hyperopic refractive error had been found. When these become myopic I am most interested.

## CHRONIC PYURIA IN CHILDHOOD\*

JOHN A. BIGLER, M. D.

HIGHLAND PARK, ILLINOIS

Infection of the urinary tract with the accompanying pyuria is one of the common disorders of infancy and childhood. Everyone dealing with these young patients must encounter such infections whether or not they are so recognized. Acute cases of pyuria are relatively simple infections, but not so the chronic case, which because of the underlying pathology is more serious to the life of the patient and requires treatment other than medical in almost every instance.

The term acute pyuria is used to include those urinary tract infections which completely clear up in from four to six weeks with or without medical treatment. The term chronic pyuria as used here includes not only those cases with frequent recurrences of the urinary tract infection but also those cases in which the infection has been present for longer than four to six weeks. It further includes cases with urinary stasis due to obstruction which, while they may be recognized early during the first acute phase of the infection, would become chronic if allowed to persist without the correct diagnosis and treatment.

A probable diagnosis of pyuria can often be made from the clinical symptoms, but a positive

diagnosis only by examination of the urine. Any given case of chronic pyuria may and often does resemble at first an acute pyuria when the initial symptoms are considered. The amount of pus in the urine and the clinical symptoms rarely give any indication of the site of the infection. The diagnosis depends upon the presence of pus in the urine, the clinical symptoms, the duration of the pyuria, the findings upon physical examination and lastly upon a complete urologic investigation. These points will be taken up in more or less detail, as will the types of urinary tract lesions which serve as the basis for the chronic infection.

*Age and Sex.* Cases of chronic pyuria occur about equally in both sexes and may be found at any age from birth on.

*Clinical Symptoms.* The clinical symptoms are usually the same in the acute and chronic cases of pyuria at the onset of the infection. It is practically impossible to tell early which cases will become chronic. The symptomatology varies somewhat with the age of the patient. In infants only general symptoms are present. There is usually an acute onset with high fever and at times a convulsion. The temperature often reaches 105 and may fluctuate over a wide range. Only occasionally the course may be afebrile. A chill may accompany the high fever and is nearly pathognomic of a pyuria, as it so rarely occurs in other childhood diseases. Pallor, restlessness, irritability and crying, the latter especially upon urination, are of frequent occurrence. The above general symptoms may be those of any acute infection. In the older child there may be such local symptoms as dysuria, urgency, frequency and often tenderness over the bladder and kidneys. When cystitis is present, the local symptoms are usually more pronounced than when only the upper urinary tract is the site of the infection.

In chronic pyuria the above local and general symptoms may subside and then recur again at irregular intervals, although the urine always contains numerous pus cells. There may be long periods when only a low grade fever is present. In cases in which there has been marked destruction of kidney tissue, the symptoms of nephritis and even uremia may occur. At times there are no symptoms which would lead one to suspect a urinary tract infection.

\*Read before Section on Medicine at Peoria, May 17, 1933.

*Physical Examination.* A physical examination should always be carefully performed. An abdominal tumor mass should lead one to suspect the presence of some obstructive lesion in the urinary tract. A supra-pubic tumor which disappears upon emptying the bladder, which is associated with incontinence and dribbling, is found with a bladder neck or a posterior urethral obstruction or with a cord bladder. It might be well to add here that a meatal ulcer may cause a dysuria and a full bladder. It occurs in the presence of an ammoniacal diaper with or without the characteristic rash. A drop of cocaine solution on the meatal ulcer will give immediate temporary relief from the dysuria and immediate emptying of the bladder. A pyuria is never present and these patients with meatal ulcer should not be sent to the urologist. A tumor in one or both kidney regions may indicate a hydronephrosis, a kidney tumor or polycystic kidneys. Hydro-ureters are rarely palpable. Enlarged, tender, palpable kidneys may mean a pyonephritis. When an anomalous ureter empties outside of the vesical sphincter, there is constant wetting of the diapers or clothes. So-called renal infantilism or renal dwarfism may be suspected by the physical make-up of the patient.

#### PATHOLOGY

The lesions which cause the chronicity of the infection can be divided into two groups: the non-obstructive and those with obstruction and urinary stasis.

*Non-obstructive group:* Tuberculous infection of the urinary tract is not a common cause of pyuria in children. When present it is exceedingly chronic without marked clinical symptoms and is always secondary to tuberculosis elsewhere in the body. The tubercle bacilli are carried by the blood stream to the kidneys from where the infection spreads to the lower urinary tract. A tuberculous infection should be strongly suspected in any case of pyuria in which the cultures of the urine are sterile. The tubercle bacilli may be found by staining the sediment of the urine or by guinea pig inoculation.

Calculi in the urinary tract are practically always accompanied by a hematuria at some time. Pyuria will occur sooner or later and will become chronic. The calculi may be located in the pelvis, ureter or bladder and may

be single or multiple. Renal colic varying in severity is frequently present. The infecting organism may be the colon bacillus or any of the pyogenic organisms. Urinary calculi are found fairly commonly during childhood.

Chronic pyelitis or cystitis may occur when the infection becomes deep seated in the tissues causing some degree of inflammatory hyperplasia. The ureters may also be involved. The bacillus coli or the pyogenic organisms are usually present in the urine. The clinical symptoms are usually marked at the onset, subsiding and recurring at irregular intervals. There may be an associated pyonephritis from an ascending infection. In other cases a pyonephritis may develop from a blood stream infection. The course at first may be very stormy with the pyuria subsiding only with the healing of the kidney infection.

Kidney tumors and paranephritic abscesses are fairly common during childhood but are rarely accompanied by a pyuria.

*Urinary Tract Obstructions:* The frequency of urinary tract anomalies has been brought out in the reports of both the urologists and the pathologists. The incidence as given in necropsy series varies between two and thirteen per cent. Hurt states that some type of urinary anomaly can be expected in about five per cent. of all babies born. From necropsy studies it is now quite firmly established that most of the obstructive lesions as encountered in children are congenital in origin. One of the most common causes of chronic pyuria is urinary stasis due to obstruction somewhere in the urinary tract. The dammed up urine exerts a back pressure, which is commensurate with the degree of obstruction, producing dilatation above. Besides producing structural changes the dammed up urine offers a fertile culture media for infecting organisms. A chronic deep seated infection develops with usually a pyonephritis whether the route of the infection is by way of the blood or is of the ascending type. Although the obstruction is present at birth, infection and pyuria may not develop until years later. The following congenital lesions are frequently encountered:

Hydronephrosis due to narrowing at the pelvo-ureteral junction or to the pressure of anomalous vessels where they cross the pelvis or ureter. The hydronephrosis is usually unilateral but it



may be bilateral. There is hypertrophy and dilatation of the kidney pelvis with pressure atrophy of the kidney. The kidney tissue may become so thinned out as to be only a shell with dilated tubules and considerable fibrosis. The large hydronephrotic kidney may be palpable.

Hydroureteronephrosis due to narrowing of the ureter in the region of the uretero-vesical junction. It may be unilateral or bilateral. Besides the hydronephrosis there is also dilatation of the ureter with tortuosity due to its increased length. There are also certain cases of bilateral hydroureteronephrosis with a golf-hole-like ureteral opening in which no obstruction is found even at the bladder neck or in the urethra. These are described as being due to atony or neuromuscular dysfunction.

Bladder neck and posterior urethral obstructions are common and occur practically only in boys. Besides the bilateral hydroureteronephrosis which is always present there is hypertrophy and dilatation of the bladder and often bladder diverticula. The obstructions can frequently be diagnosed or suspected because of the suprapubic tumor and the incontinence and dribbling. The urine is usually normal until infection takes place, then there is a marked pyuria. It is in these cases that bladder catheterization is a hazard because if infection is not already present it will invariably follow and a pyuria develop within forty-eight hours. The bladder neck obstructions are usually due to a median bar. They are not often encountered under one year of age because the obstruction seems to increase with age, only producing symptoms when it becomes well established. The posterior urethral obstructions are due to valves or a diaphragm in the region of the verumontanum. The obstruction is usually well established before birth with the result that these cases are usually encountered in very young infants. Even at the time of birth such marked structural damage has taken place in the upper urinary tract that the prognosis is poor. After infection and pyuria occur, the outlook is often hopeless because of the pyonephritis. A cord bladder may produce the same changes as above and can be differentiated by the neurological findings and the presence of a spina bifida.

Anomalous ureters with and without obstruction at their distal end may be the seat of the

urinary infection. The anomalous ureter may join the other ureter from the same kidney, it may enter the trigone in the normal position or it may empty outside of the vesical sphincter.

*Acquired obstructive lesions* producing urinary stasis also occur but they are less common than the congenital type. Varying degrees of hydroureteronephrosis may be produced by the pressure of abdominal tumors on the ureter, by the growth of kidney tumors, and by the presence of bladder tumors which are rare. Urinary tract calculi may by their presence in the pelvis, ureter or bladder produce obstruction with dilatation above. Acquired strictures occurring anywhere in the ureter will produce varying degrees of hydroureteronephrosis. They are not as commonly described in children as in adults. We have encountered no cases of stricture that could not be explained on a congenital basis rather than on an acquired basis.

#### COMMENT

In general it can be said that the usual case of acute pyuria runs its course in about from four to six weeks with or without medical treatment. If after this time the pyuria persists and medical treatment has been adequately carried out, urologic examination is indicated. If there have been recurrent attacks of pyuria, the same holds true. The presence of an abdominal tumor mass in the region of the bladder or kidneys accompanied by a pyuria, no matter what its duration, should have urologic study immediately. One should not depend upon the presence or absence of clinical symptoms but upon the presence or absence of pus in the urine in judging each case. The urine should be examined in every unexplained fever and to advantage more than once. In fact it should become just as much a routine part of the examination of the sick child as is the examination of the ears and throat. If a pyuria is present, then future examinations are necessary. These should be continued until the pus disappears and then during the course of the next year. Helmholtz goes so far as to say that no case of pyuria should be considered cured without negative cultures of the urine. It is only by the recognition of a recurrent, prolonged or persistent pyuria or at times by the physical examination that the chronic cases can be recognized and the proper investigation undertaken

to determine the underlying pathology and hence the correct treatment.

These patients with pyuria do not seek out the urologist but they go to the medical man. This puts the problem of diagnosis up to the general practitioner or the pediatrician where it belongs. They must recognize the type of pyuria present and they must decide which cases are to go to the urologist. Certainly every case of pyuria should not be sent to the urologist but there is no excuse for allowing a case of pyuria to drag on for months or even years without giving that patient the benefit of a complete urologic examination. At the present time the age and the sex of the child is no bar to such a complete investigation. The new instruments devised for even small infants and intravenous pyelography tend to take away the hazards which were formerly present.

## THE TREATMENT OF PULMONARY ABSCESS\*

CARL A. HEDBLOM, M. D.

CHICAGO

There seems to have been a very considerable increase in the incidence of pulmonary abscess during the past few decades. The literature now contains well over 3,000 recorded cases, about 90 per cent of which have been reported since 1900. There seems to be no doubt as to the increase of the post-operative type. About one-quarter of a series of 2,458 cases collected from the world's literature followed operation; in this country the proportion in relatively large series of individual reports has been from one-third to two-thirds.

Aspiration of infection is probably by far the most frequent cause. In over 40 per cent. of 528 cases studied by the author the abscess was a post-operative complication.

In more than half of these the operation was a tonsillectomy and in nearly another quarter of the cases some other operation about the mouth.

Among 657 cases following operation as reported in the world's literature the operation was a tonsillectomy in 360 or 54.8 per cent.

While most of them are probably aspiratory, some no doubt are embolic.

The obvious preventive measures against aspiratory post-operative abscesses are oral hygiene, avoidance of operation in the presence of acute tonsillitis or pharyngitis, during which time the organisms are of greatly enhanced virulence; measures to prevent infected blood and secretions from entering the bronchi by preserving the cough reflex through light general or circumscribed local anesthesia; position of the patient such that the secretions will gravitate away from the trachea; suction and reasonably skillful, speedy operation. Bronchial obstruction may be relieved by coughing (which should therefore not be unduly inhibited by morphia, etc.), by carbon dioxide inhalations, and, in case of definite evidence of aspiration of blood, vomitus, or foreign body, by prompt bronchoscopic removal.

In a minority of cases, abscesses are doubtless due to blood-stream infection. They may be prevented in some measure perhaps by strict asepsis, by avoidance of trauma during operation, by clean-cut ligation of bleeding vessels rather than by mass ligatures, and by limiting mobility of the operative field.

Prompt, effective treatment of subphrenic abscess, osteomyelitis, infected venous thrombosis, etc., leading to pulmonary involvement by lymphatic extension or secondary to pyemia, may also be classed as preventive measures.

*The Treatment of Pulmonary Abscess.* As judged by the medical literature, there is greater divergence of opinion as to treatment now than at any time since Hippocrates. Among the great variety of methods recommended may be mentioned prolonged bed rest, "thirst cure," postural drainage, vaccines, drug therapy (from emetin to 30 per cent. alcohol intravenously), bronchoscopic suction, lavage, medication and dilatation, pulmonary compression by pneumothorax, phrenic neurectomy, pneumolysis and extrapleural thoracoplasty, thoracotomy drainage, pneumolysis and cauterization and extirpation of the diseased tissue by cauterization or lobectomy. The evil lies not in the multiplicity of methods as such, but in the tendency to indiscriminate and injudicious and persistent use of one method in all types of cases.

A consideration of the extraordinary varia-

\*From the University of Illinois, College of Medicine, Department of Surgery.

†Read in part before the meeting of the Illinois State Medical Society, Peoria, Ill., May 17, 1933.



tion in type and virulence of the causative organisms singly or in symbiosis, in infection resistance ratio, in pathological anatomy, and in complications and in the general condition of the patient, lends emphasis to the statement that to be rational and effective, treatment must be individualized.

The fundamental principle in treatment is adequate drainage. A second principle of treatment is obliteration of the cavity in case that does not occur spontaneously following drainage. Supportive measures, including drug therapy, are of great importance as an auxiliary to drainage. Exceptionally, drug therapy may be of primary importance, as in the use of emetin in amebic abscess.

The avenue of drainage may be by way of a communicating bronchus or through a thoracotomy opening in the chest wall. Posture, bronchoscopy or compression therapy may be of aid to bronchial evacuation. The indications for these methods will be discussed first, and later those for thoractomy drainage and extirpation.

*Postural Drainage.* When an abscess perforates into a bronchus, the size of the communicating opening and of the bronchus in relation to the abscess largely determines the prospect of adequate bronchial drainage. Coughing may be effective in keeping the cavity empty. Probably 10 to 15 per cent. of cases of abscess are cured spontaneously in this way. Gravity drainage, made possible by having the patient assume the position most effective in his individual case would materially increase the percentage of spontaneous cures.

The prospect of a cure in any given case will depend on the virulence of infection, on the pathological anatomy of the abscess and on the presence or absence of secondary pathological changes. In the presence of an infection of mild grade there is no immediate necessity for thorough drainage; if the infection is virulent, as in case of a gangrenous abscess with sequestration, the urgency is great. An abscess situated centrally and opening into a bronchus by a wide stoma lends itself well to postural drainage; one situated in the parenchyma and communicating with a bronchus by a long, tortuous sinus, is not likely to be benefited. An acute abscess cavity will obliterate when well drained; a chronic

abscess with greatly stiffened walls may drain well but is likely to persist. Multilocular cavities are unlikely to drain well; the honeycomb type will not. Secondary bronchiectasis and the "lattice" type of cavity require more than drainage for a cure.

*Bronchoscopic Instrumentation.* Aside from its indispensable use in the recognition and removal of foreign bodies and in the diagnosis of bronchogenic growths with secondary abscess formation, bronchoscopic removal of granulation tissue and dilatation of stenosed openings into the abscess cavity may make postural drainage adequate. Favorable results are reported also from bronchoscopic aspiration and lavage, but it seems only reasonable to suspect that many cases reported cured by this method might have gotten well by postural drainage. Heuer writes that under the best conditions the results of bronchoscopic treatment are no better than from postural drainage. The most successful bronchoscopy requires the specialist's skill and experience.

*Collapse Therapy.* (a) Pneumothorax collapse: Generally speaking, this method of treatment has little to recommend it, and is open to serious objection. In peripheral abscess with associated dense pleural adhesions, collapse of the diseased portion of the lung is impossible. If adhesions are limited and friable they may tear, producing perforation of the abscess into the free pleural cavity, which is a very serious complication. If the abscess is in the parenchyma of the lung communicating with a bronchus by a narrow channel, the collapse of the lung may distort and narrow the drainage channel. The only type of acute abscess in which it is reasonably safe is that which is centrally situated and is already draining adequately. It would seem probable that the majority of abscesses reported as cured by pneumothorax therapy would have gotten well by spontaneous or postural drainage. There is the more valid objection to pneumothorax collapse that if it fails to accomplish its purpose, it is impossible to institute thoracotomy drainage until the lung has completely re-expanded and until adhesions have formed, which usually requires several weeks.

(b) Phrenic neurectomy: This procedure possesses the advantage over pneumothorax that it does not involve the danger of perforation of

the abscess into a free pleural cavity, and does not interfere with later thoracotomy drainage if that should seem necessary. Furthermore, if the drainage tract remains unobstructed, it will increase the effectiveness of coughing, in that the lung is more effectively compressed during the expiratory phase of coughing, and it may serve partially to collapse a cavity—particularly one in the lower part of the lung. It may also be effective in checking hemorrhage. On the other hand, drainage may be impeded by the resulting distortion of the drainage tract.

(c) Thoracoplasty: A complete extrapleural thoracoplasty is never indicated in the treatment of a single abscess of limited extent. A partial thoracoplasty involving removal of very long segments of the upper ribs may effectively collapse an apical cavity, and a resection of very long segments of the lower ribs will result in a partial collapse of the base of the lung, but the more rational and conservative procedure is a thoracotomy with drainage.

Recently partial thoracoplasty has been advocated for improving bronchial drainage. Fixation of the lung is first secured by preliminary rib resection beyond the borders of the cavity and packing gauze against the parietal pleura. At a second operation several more ribs are excised. This involves a more extensive rib resection than is often necessary; it is done during the stage of the illness during which the patient is often too critically ill to withstand it, and such rib resection may lead to interference with the cough reflex and retention pneumonia. In case of a peripherically situated abscess, drainage may be hindered rather than promoted by such a procedure, and the most direct, safest exit for the pus is through the chest wall. If the abscess is central, a very extensive resection would be necessary to effect its collapse. In my opinion this is never advisable as a drainage procedure. Secondary thoracoplasty may be necessary after drainage to obliterate a stiff walled cavity.

In case of secondary pleuritis and marked pulmonary fibrosis effectively masking all localizing findings and with secondary bronchiectasis, an extensive thoracoplasty is to be considered and may result in sufficient improvement, so that nothing further is indicated. If symptoms

persist, a secondary extirpation or lobectomy is simplified in some respects and made less hazardous by the preliminary thoracoplasty. Thoracoplasty, however, involves a very considerable mortality, chiefly from pus retention.

*Thoractomy Drainage.* The expressed consensus of opinion seems to be that if bronchial drainage, promoted by posture, bronchoscopy, etc., proves inadequate after eight to twelve weeks' trial, thoracotomy drainage should be instituted. A more rational working rule is to continue with the more conservative methods if and as long as the patient improves definitely and progressively; to establish thoracotomy drainage in eight to twelve weeks in case of patients who show little change for better or worse; but to operate as soon as there is clinical or x-ray evidence of cavity formation in the severe type, especially those with horribly stinking, brownish sputum, characteristic of localized gangrene. Many of these patients will die unless drainage is instituted promptly. The condition of others soon becomes too critical for operation. A clear-cut distinction should be made between the symptoms due to an acute pneumonic or bronchopneumonic process preceding the development of an abscess and those secondary to and caused by the abscess. In the first mentioned group most patients will die if operated upon early; in the second, most of them will die if not operated upon early.

The generally accepted theoretical time limit for nonoperative treatment as stated is under twelve weeks; and yet a very considerable proportion of abscesses, when first seen by the surgeon, have been present for many months or years. Chronicity means enlargement and extension of the abscess, thickening of its walls with fibrosis, often secondary bronchiectasis, visceral damage, anemia and weakness. Adequate thoracotomy drainage is more difficult to establish and maintain, the hazards from air embolus, metastatic abscess, and hemorrhage are increased; convalescence is prolonged; secondary plastic operations often have to be performed to collapse stiff-walled abscess and secondary bronchiectatic cavities, or to close bronchial fistulae. The mortality is relatively high—not from the operation as such but because of the pathological anatomy and the wretched condition of the patient, who if he survives remains



for life badly damaged, due not to drainage operation but due to delay in instituting it. Early adequate drainage, on the other hand, means a relatively simple operation of limited extent with a low operative mortality, short convalescence, and maximal restoration of function. The time would seem to be at hand for entering a plea in behalf of more rational treatment of pulmonary abscess and against the persistent "side-stepping, pussy-footing and shadow-boxing" represented by the seemingly growing tendency to persist indefinitely with methods that have proven themselves inadequate to the individual patient.

The first step in thoracotomy drainage is accurate localization of the cavity. Circumscribed impairment of the percussion note and the antero-posterior and lateral roentgenograms present the most significant findings in peripherally situated abscesses. The percussion findings will indicate where the cavity lies nearest the surface, and this, generally speaking, is the most direct approach. Localized tenderness to palpation, when present, is very suggestive of the point where the abscess is approaching the pleurae. In case of deep-seated cavities the roentgenograms are the best guides. When one or more fluid levels are present, roentgenograms in different positions may demonstrate the three dimensions of the cavity. Sometimes lipiodol bronchography is of value in outlining the abscess-bearing area due to the filling defect produced by failure of the oil to enter the bronchi in the consolidated area. Bronchoscopy is of value in visualizing the individual bronchus from which the pus comes. Flick has used the bronchoscope left in the cavity as a means of localization for thoracotomy drainage.

The second condition for safe thoracotomy drainage is the presence of pleural adhesions sufficiently extensive to prevent infection of the free pleural cavity. The only sure and practical method of determining the presence or absence of such adhesions is exploratory thoracotomy for inspection of the pleura in the area selected for drainage. Such inspection can usually be accomplished by a small incision carried through the intercostal muscles exposing the pleura. If the ribs are very close together, as they are posteriorly, a short segment of one

rib may be excised. Incision in the posterior periosteum then exposes the parietal pleura.

*One-Stage Drainage Operation.* If the pleura is opaque and porky in appearance, the presence of adhesions may be assumed and can be demonstrated by cutting through it down to the adherent darkly pigmented lung. Immediate drainage can be established through this adherent area without contamination of the pleural cavity.

Localization of the cavity by needle aspiration of pus or foul air should precede pneumotomy. If aspiration fails to locate the abscess, a lead marker may be stitched into the center of the operative field. Another roentgenogram may then reveal a faulty localization. In my opinion, incising the lung or poking an instrument into it blindly is permissible only if repeated aspiration at different sittings fails to localize the abscess and the indications for drainage are urgent. In such cases the free use of the cautery iron will usually bring about drainage when the burned tissue sloughs away.

Cautery incision has the marked advantage of being bloodless, provided a coagulating current is used. Bacteria in the region of the incision are killed or devitalized and air embolism is prevented. The further enlargement of the drainage opening, as the burned tissue sloughs away, is another advantage.

It is often advisable to be satisfied with a narrow opening into the abscess cavity at the first operation, leaving its enlargement to a later sitting, when adhesions have become more extensive and the patient's condition improved. If the drainage opening is wide, the cavity may be packed with iodoform or mercurochrome gauze; if long and narrow, as after preliminary operation, soft rubber tissue drainage is preferable.

*Two-Stage Operation.* When the pleura is found transparent at the exploratory operation and the mottled lung surface is seen to move with respiration, a two-stage operation is indicated. The periosteum is separated from a 6 to 8 cm. segment of two or three ribs, and iodoform or mercurochrome gauze is packed between the intercostal bundles and the denuded ribs, the ribs being left in place. If they are resected at this stage, the chest wall is mobilized, interfering with coughing, which may also be volun-

tarily inhibited because of pain. The wound is closed without drainage.

An alternative method in case of very ill patients is to resect one rib or to incise one or two intercostal muscles and pack gauze against the pleura so exposed. In my experience firm adhesions have nearly always been so produced in ten days to two weeks.

At the second operation the wound is opened, the gauze is removed and the pus or foul air is localized with needle and syringe. The needle is left in situ and a drainage tract is burned down along the needle into the abscess. If the patient is in good condition, a rib resection is then performed to provide for wide access to the abscess cavity and the wound is packed wide open. If the patient's condition is poor, adequate temporary drainage only is provided, leaving the rib resection and further laying open of the cavity to a later sitting.

Only in case immediate drainage is urgently indicated is it justifiable to do a single-stage operation in the absence of pleural adhesions. Such urgency may be due to the rapid downward course from toxic absorption and from an harassing cough. In such cases two or three ribs are resected and the lung is sutured to the parietal pleura with chromic catgut on a fine needle. The chief danger of this method lies in accidental tearing of the pleura with resulting pneumothorax and extensive empyema.

One of the annoyances incident to drainage of a large chronic cavity is regeneration of the ribs from the periosteum left behind. To prevent this, the periosteum in the region overlying the cavity should be destroyed at the primary resection by application of chemical cautery such as Zenker's solution.

Tincture of iodine, zinc chloride and the cautery iron have been used to provoke pleural adhesions, but foreign body irritation, such as that of gauze, has come into general favor in late years. An interesting modification, described by Nisson from Sauerbruch's clinic, consists in a pneumolysis and plombage using varying amounts of vioform paraffins, prepared after the formula recommended by Baer. The advantage claimed for this method is that the pressure of the paraffin prevents movement of the pleural surfaces over one another and so promotes adhesions, and also that the compression of the cav-

ity promotes drainage and may result in a cure without drainage.

*Extirpation of the Diseased Lung.* Partial extirpation of a lobe is accomplished by the use of the cautery after the method of Graham. Total lobectomy may be done primarily or following thoracoplasty.

Cautery extirpation finds its chief indication in cases of honeycomb abscess formation involving a portion of one lung, in cases in which extensive pleuritis or pulmonary consolidation or fibrosis confuse the physical findings and cloud the roentgenogram so that localization of the abscess is impossible, and in the presence of multiple abscesses limited largely to one lobe. In such cases this method offers the best prospect of a cure.

Lobectomy in pulmonary abscess has its limitations, in that many patients who can be cured by no other method are in such wretched condition that they do not survive so extensive an operation. Some patients with advanced pulmonary suppuration, consisting of abscess, bronchiectasis and fibrosis, are in sufficiently good condition to withstand a primary lobectomy or a lobectomy secondary to a thoracoplasty.

*Obliteration of Chronic Abscess Cavities.* Small abscess cavities, even of years' duration, will usually heal following adequate drainage. Larger cavities, and especially those with walls greatly stiffened by chronic fibrosis, may persist indefinitely. The indications in such cases are a thoracoplastic collapse of the chest wall sufficiently extensive to bring the surfaces into apposition, and a chemical cautery destruction of the epithelial lining which results from proliferation of the bronchial endothelium. For such chemical cauterization a few applications of 20 to 30 per cent. silver nitrate usually suffice in my experience.

Bronchial fistulae opening into such cavities, unless very large, may be closed by the same simple method. If large, repeated preliminary silver nitrate cauterization, extending well into the lumen of the bronchus, is usually sufficient to bring about their obliteration by a later skin muscle plastic. It is important, however, to defer such attempt at closure until all purulent discharge from the fistula has disappeared.

Chronic abscess with associated extensive bronchiectasis requires a more extensive opera-



tion. All peripheral dilatations opening into the abscess cavity are opened wide with the coagulation current and all exposed mucosa is cauterized. A more extensive thoracoplasty collapse of the chest wall is necessary than for uncomplicated abscess. Sometimes a phrenic neurectomy is of marked benefit in relaxing a fibrotic lower lobe.

Healing of the cavity with "latticework" changes in the exposed lung surface and with multiple bronchial fistulae may be accomplished by patient use of the coagulation cautery at many sittings. The greatest danger in these cases is severe hemorrhage from large vessels in the structures which must be divided. The epithelium covering the whole surface and in the stomata of the bronchi must also be replaced by healthy granulation tissue before complete healing will occur.

Supportive measures, which must be instituted as soon as symptoms develop, include complete bed rest; an abundance of fluids; arsphenamin if spirochetes and fusiform bacilli are found in the sputum; emetin in case of the rare amebic abscess, recognized by finding ameba histolytica in the sputum; and blood transfusion in case of severe secondary anemia from hemorrhage or suppuration. Sedatives, especially morphine, must be used with judgment. Control of harassing cough is essential both to insure rest and sleep and to prevent the tendency to bronchogenic spread of infection. Excessive use of morphine, on the other hand, by inhibiting cough, leads to retention of sputum and to secondary pneumonia and secondary abscess. The best safeguard against these complications, as well as against hemorrhage and metastatic abscess, is early adequate drainage through the bronchus or through the chest wall.

#### SUMMARY

Pulmonary abscess, particularly the post-operative type, seems to be on the increase. The preponderance of evidence indicates that the great majority are due to aspiration of infection. The obvious preventive measures are the removal, as far as possible, of infection from the respiratory tract before operation, and prevention of blood and secretions from reaching the bronchi. The basic principle of treatment is early, adequate and continuous drainage, through the communicating bronchus if possible,

or, if that fails after a limited period of time, through a thoractomy opening. Posture and bronchoscopic removal of foreign material and enlargement of the stoma between the abscess and the bronchus may favor bronchial drainage. If the patient does not definitely improve and if the abscess does not show definite evidence of healing after two or three months, thoracotomy drainage should be instituted. If the patient is losing ground steadily, it should be instituted as soon as there is evidence of cavity formation.

Early adequate drainage will lower operative mortality and will prevent the extensive damage to the lung and to other viscera incident to chronic abscess.

The most important consideration of operative technique are accurate localization and prevention of empyema by draining only through adherent pleurae.

#### DISCUSSION

Dr. M. Pollak, Peoria: I greatly enjoyed the paper of Dr. Hedblom and have learned a great deal from it. My experience in the treatment of lung abscess is very limited as compared to the experience Dr. Hedblom has had. Nevertheless I shall draw in my discussion on my own experience.

In regard to pneumothorax, any one who has collapsed lungs in a large number of cases knows that in a great portion of artificial pneumothorax cases an effusion will develop. Should this occur in a case of lung abscess this effusion will change, sooner or later, into an empyema. I regard, therefore, artificial pneumothorax in the treatment of lung abscess a dangerous procedure.

We have found salvarsan of value in the treatment of lung abscess. In lung gangrene, salvarsan might be considered a specific. I have in my mind a case which came into the Sanitarium in a dying condition, suffering from lung gangrene complicated by an empyema. Six weeks after very intensive salvarsan treatment the patient, a girl of fourteen, walked out from the place.

With regard to chest surgery, I feel that operations should be performed only after the conservative measures have been given a fair trial. It has also to be borne in mind that chest surgery is a specialty in itself and shall not be done by the general surgeon who has had no experience and special training in operations on the chest.

We have found bronchoscopy of very great value in the treatment of lung abscess as you might see from the case reports I have to give and the slides I have to show.

Case No. 1 refers to a little girl of fourteen who came to the Chest Clinic of the Peoria Municipal Tuberculosis Sanitarium with the diagnosis of tuberculosis. Going into her history we have found that her disability, causing her to cough and to expectorate large

amount of sputum of foul odor, has existed since her age of two and one-half years. She was subject to asthmatic attacks and for that reason some operation on her nose was done in October, 1926. The film taken at about the same time on October 17, 1926, showed the same condition we have found about six years later on April 28, 1932, her admission to the Clinic. After a few bronchoscopies her condition cleared up as might be seen from the radiogram taken May 11, 1932.

Case No. 2 is a boy of four with a history of cough and expectoration for two and one-half years. On the basis of the physical examination and radiogram, the diagnosis of lung abscess was made. After two bronchoscopies the condition has cleared up as might be seen from the radiogram taken January 9, 1933.

Case No. 3, a woman of thirty-five has had an appendectomy performed one and one-half years prior to her admission to the Peoria Municipal Tuberculosis Sanitarium. On the basis of the study of the sputum, physical examination and radiogram made on October 11, 1932, the diagnosis of lung abscess was made. We have put her on salvarsan treatment and her condition cleared up somewhat as might be seen from the radiogram taken December 17, 1932. After a few bronchoscopies her condition improved further as might be seen from the radiogram taken March 4, 1933. Finally we did a phrenicectomy as seen from the radiogram taken April 15, 1933, with some slight improvement in her condition. Now we are planning to use an autogenous vaccine.

I wish to thank the Chairman and the Section for the privilege of this discussion.

Dr. Carl A. Hedblom, Chicago (closing the discussion): I have nothing to add but want to congratulate Dr. Pollak on his results from bronchoscopy. It is well to bear in mind, however, that recurrences have been common following this method of treatment. If adequate drainage can be provided and sustained, whether by bronchoscopy or thoracotomy, healing will result. Thoracotomy will insure adequate drainage in cases in which bronchoscopy fails.

---

## HOW THE PUBLIC HEALTH NURSE WORKS WITH THE MEDICAL PROFESSION\*

MISS M. LOUISE NICOL

PEORIA, ILL.

In every other branch of nursing it is taken for granted that the physician and the nurse work together for the welfare of the patient. This same relationship has not been well established in public health nursing, although the rules and regulations for public health nursing provide for it. We hear uncomplimentary remarks from various sources regarding the co-

operation between physicians and nurses in public health. For example, a nurse who saw the subject of this paper, "How the Public Health Nurse Works with the Medical Profession," remarked, "Most of the time they don't!" We find that many physicians have the same attitude as the nurse just mentioned.

The relationship between the medical and the nursing profession is recognized by leaders in both groups as the most important factor governing the success or failure of a public health nursing program. One of the great obstacles in the way of proper working relationships between the physician and the nurse, and one that is also a serious handicap to public health nursing is the variety of interpretations of public health nursing which results in misunderstanding between physicians and nurses.

This is no doubt due to the rapid growth of the public health nursing movement, from the skilled nursing care of the sick in their homes to the present stage of development in which public health nursing is described as "an organized community service rendered by specially prepared graduate nurses to the individual, the family, and the community. The service includes the interpretation, and teaching of medical, sanitary and social procedures for the prevention of defects, promotion of health, and may include skilled nursing care of the sick in their homes."

Disharmony will surely result if the physician understands that in public health nursing the nurse's responsibility ends in the home when bedside care has been given to the sick, while on the other hand the nurse sees such problems as children being exposed to an active case of tuberculosis, or a prenatal case in the fifth or sixth month of pregnancy who has had no medical supervision, and undertakes to correct the situation.

Let us not overlook the fact that public health nursing is not a new branch of nursing, but one that has developed through the ages, keeping pace with discoveries and advancement in medicine which has created a need for this type of nursing service. The discovery of the use of immune serum in the control of measles is an example of creating a need for public health nursing service. Since education of the parents is necessary before the scientific knowledge can

---

\*Presented on Medical Women's Day, May 16, 1933, at Peoria.



be applied to practice, there must be some means of teaching the benefits of the discovery and influencing parents to seek the treatments for their children.

Team-work is important, and no less so in public health nursing, a branch of preventive medicine, than it is in nursing the sick, a branch of curative medicine. Therefore, the public health nurse who understands ethical public health nursing procedures will not be guilty of promoting the use of any such discovery in preventive medicine until she knows that it is being generally used by physicians and the local medical society have approved a plan of educational work. Proper working relationships will never be established until there is mutual understanding between physicians and nurses regarding the field in which the public health nurse must function and the principles which govern her in her activities.

Information that would lead to proper interpretation of public health nursing and result in better understanding between physician and nurse is available. It has been prepared by the National Organization for Public Health Nursing, which was founded in 1912 for the purpose of promoting, developing and standardizing public health nursing. Because this is a community service, with which physicians, nurses, health officials and laymen are concerned, the activities in which the organization engages to fulfill its purpose are carried on in close cooperation with these groups. All the plans and policies where medical service is involved have been made with the help of leading authorities in the medical profession.

Among the many things that this organization has done for public health nursing, it has compiled and published a Manual to be used primarily by the nurse as a guide in her relationship to the agency employing her, the family she serves, the medical profession, technical procedure, and content of program. This Manual contains the information necessary to bring about more uniform understanding of what public health nursing really is. It has become the guide in public health nursing matters for schools of public health nursing, State departments of Public Health, and all properly organized nursing services. When the medical profession will use this as their guide in relation to nursing

matters, we can hope for a closer bond between physicians and nurses in this field of nursing.

The public health nurse's activities in a community depend largely upon the health problem in which her employing agency is interested. The services may be rendered in a community by means of one or more of a dozen types of programs, built around the health needs presented by age groups or special health problems. These programs are classified as maternity, infancy, pre-school, school, morbidity, communicable disease, tuberculosis, syphilis and gonorrhea, mental hygiene, orthopedic, industrial and adult nursing service. Medical service is involved in every one of these programs and the qualified public health nurse expects to work with the medical profession in carrying on her work.

Let us cite a specific instance of how the public health nurse works with the medical profession. We will suppose that a community has had several cases of diphtheria and the local public health nursing organization decides to launch a campaign to immunize children against this disease, a new project for this particular organization. In our Public Health Nursing Manual we are advised that new projects involving medical service must be planned in close cooperation with the medical profession. It is standard procedure in well-planned Public Health Nursing organizations for the medical profession to cooperate through the medium of an advisory committee appointed by the medical society. The nurse will advise this committee regarding the organization's decision to conduct a diphtheria prevention campaign, and will ask the medical advisory committee to meet for the purpose of deciding upon policies to be observed in the educational work with parents. The nurse will not be satisfied for the committee to say, as they too often do, "Whatever you do will be all right with us," but will expect the committee to decide what parents may be told regarding such questions as:

1. Age groups that shall be immunized.
2. Number of treatments to be given.
3. Time that shall elapse between treatments.
4. Location and hours where physicians shall administer treatments:
  - a. Family physician's office, or

b. In groups at school, hospital or other central location.

5. Cost of treatments.

6. What provision shall be made for those parents who are unable to pay.

The medical advisory committee will also be expected to examine the literature and publicity material to be used in the campaign for scientific accuracy. The nurse will abide by the decision of this committee without further contact with other physicians in the community, because she expects this advisory committee to explain to each physician, either individually or in medical society meeting, the plans and policies that have been approved by their own profession. The nurse is then in a position to plan activities that should result in parents taking their children to the place designated for administering the preventive treatments.

This same principle of guidance and direction by a medical advisory committee applies in all phases of public health nursing. A public health nurse may be carrying on an antiquated program in tuberculosis, of supervising and caring for the advanced cases of tuberculosis, but she will not be able to shift her efforts to preventive work until the medical profession helps to plan and will approve a nursing program that conforms to scientific knowledge in relation to control and prevention of tuberculosis. The nurse is a most effective means of educating individuals and families, but she must have definite instructions as to what she shall teach regarding such matters as medical supervision of adults and children who are contacts, general hygiene for the patient, disposition of contacts and cases in the home where proper care cannot be obtained.

In public health nursing, the first essential with working with the medical profession is the properly qualified public health nurse. Next to this is the medical advisory committee, to which the nurse looks for guidance in planing new projects, adjusting already established programs to conform to progress in medicine, interpreting the nursing program to the medical profession, explaining and defending ethical public health nursing procedures, all of which will result in mutual understanding of public health nursing work and better and closer cooperation between the private physician and the public health nurse.

## THE PSYCHOLOGY AND MENTAL HYGIENE OF PERSONALITY\*

FREDERICK L. PATRY, M. D.

Neuropsychiatrist State Education Department, University of the State of New York.

ALBANY, N. Y.

### *What price personality?*

There is perhaps no other aspect of human possessions which has received so much popular hold on the mind and tongue of the average person during the past decade than that of personality. Hardly a day goes by but one can reach for almost any newspaper, periodical and book and find no small consideration given to the significance and value of personality. For example, one may have noticed in a popular daily newspaper the caption: "*New Hotel To Hire 'Personality' Girls—Intelligence Will Be Secondary Requirement.*" The article elaborates that one hundred young women who have that indefinable quality known as "It" will be selected for positions. Attention to the complexion type is given in order that the girls selected would harmonize with the surroundings. Again, one may have noticed the headline: "*Personality Route to Co-Eds' Hearts.*" Personality ranked first in the list of male attributes listed by 12 women campus leaders at a certain metropolitan university. Intelligence, athletic ability, good looks, conversation, dancing ability were next in the order named. Wealth and social position were held to be unimportant. Another newspaper headline states: "*Rank Personality As First In Success.*" The article goes on to say that "personal qualities rather than technical proficiency make for success in the modern business world. . . . Greater effort must be made by educational schools to discover the personal qualities which make for success and develop these qualities in the early training of students." One could go on to much length quoting excerpts which cast a halo about "personality." Because of its apparent tremendous importance, let us critically analyze the meaning and significance of personality, its nature, origin, components, types, development, balance, organization and finally, how we might systematically study it with the object in view of ironing out wrinkles and improving its func-

\*Last in a series of six lectures on Adult Psychology and Mental Hygiene to the Albany City Club, February 21, 1933.



tioning. This should give us not only a better understanding of ourselves, but also a keener appreciation of others as well as a greater capacity for enjoying human nature and life's experiences.

Without becoming too technical, we should make a distinction between what passes for "personality" in the popular mind, and what scientific workers mean when they utilize the word. We have seen in the above excerpts that personality was utilized as the equivalent of "It" or sex appeal. Thus mere external physical form and appearance was the gist of the concept. In another excerpt we noted that personality was utilized in a sense equivalent to citizenship and character, for the article mentioned later weaved into the picture what it considered to be the real essence of business success, "honesty, integrity, loyalty and a spirit of service." Other popular conceptions of personality include the mysterious and supernatural power, irresistible appeal, fascinating influence, magic potencies, and universal vibrations. In some minds there is also a theological and philosophical hangover of bygone decades when personality was regarded as the "gift of the gods," the reflection of the divine being, or the metaphysical and transcendental essence of man. Finally, I might quote a passage from a popular book on public speaking: "Your personality is the sum of all of your good and bad qualities. It includes all of your mental and physical characteristics, with special emphasis on the mental. What do you mean when you say that a friend has a good personality? You mean that he is well liked and has the ability to get things done. You mean that he possesses qualities which enable him to get along well with people. He is an outstanding individual, a leader. He possesses the qualities of *clear thinking, self-confidence, tact, and enthusiasm*. These are qualities which make his stand out; which make him a real power and influence in the college or community. These are qualities training in effective speaking will help you to develop."

Popular conceptions of the meaning of words are not to be brushed lightly aside. Ordinary language is often difficult to translate into scientific terms, although many of the latter have found their way into everyday speech, because there is nothing else which exactly

means the same thing. However, in order to pave the way for a more or less scientific development of the theme of this paper, it is the writer's intention to respect the conception which embraces empirical, theoretical and experimental science, as well as critical and trained common sense.

Let us consider the origin and meaning of the word personality. The word "person" is derived from the Latin *persona*, which means a mask worn by an actor. Next, it came to mean the actor himself, and later, just a human being. "Personality" is defined in the dictionary as "that which distinguishes and characterizes a person". Thus every human being possesses a personality of some sort. Moreover, it is apparent that personality has both physical and mental aspects which gives us the right to consider the morphology (form), physiology (function of parts), biochemistry, and psychology or psychobiology of the personality. Our main purpose is to focus upon the psychology of personality. However, since the personality functions as an integrated or unified whole, which perforce in analysis and description must be approached by a study of its parts, we must give some attention to various aspects, but emphasis will be given to mental processes, traits, characteristics, their interrelationships, and mental health significance.

Let us briefly consider the facts and factors entering into personality. Since the actor in life's drama does not blow in out of a clear sky, we must respect the facts of heredity, our original endowment in personality development. No one can gainsay the obvious fact that each and every person is the conjoint product of heredity and environment. Certain aspects, however, may be more attributable to nature, and others to nurture. For example, it would seem that the general physical constitution or bodily structure, aptitudes and capacity to form associations or bonds are mainly inherited. On the other hand, behavior patterns, mental traits, special skills, knowledge and the more complex integrations of structural parts and mental processes are acquired, that is, largely the product of experience—the interaction of an individual to his environment. It is a waste of time speculating over the relative importance of the roles of

heredity and environment. They are inseparable. Let the facts of each speak for themselves and focus on the question: What sort of environment will give original nature its best opportunities for optimal development of its constructive potentialities?

Keeping in mind the impossibility of describing the whole personality at once and the inseparability of various aspects of the personality and the factors influencing or shaping it, let us single out for special mention three important personality components.

*Intellect* is the cognitive or knowing aspect of the personality, the sum of perceptions and ideas and their organization. *Temperament* is the affective or feeling aspect, the total predisposition in regard to feeling and emotion. *Character* is the conative or motor aspect, the total constitution or make-up of action or impulse. The ethical significance of character is omitted since this is essentially a concern of ethics and not of the science of psychology which studies behavior objectively or impartially whether it is good or bad.

Now let us focus a while on two of our chief problems and interests in personality—its *organization* and *balance*. Attention to these factors is most essential if we are going to bring about the best possible development of each individual's personality assets. And by *best* is not inferred any one best type. The facts of individual differences in all the components of personality as well as different experiences, goals and purposes make puerile such brain waves as the development of the perfect person. Moreover, who would want to live in a social world where everyone was perfect or the ideal type? Thanks to nature and variety of experiences, we are spared such boredom. There will never be any or one only ideal type of person be he teacher, physician, business man or laborer. We need a variety of types functioning in a multiplicity of constructive ways if we are to be happy and promote civilization. Since it has been estimated that only about one-half of one per cent of the people could not be made to fit into any community, the challenge is thrown to society, and educators in particular, to create or shape opportunities in which practically all people will achieve some measure of success and reason-

able amount of satisfaction in the business of living.

To return to organization and balance of personality assets and liabilities in the intellectual, temperament, and character aspects: What is their meaning and significance? How may they be brought about? *Organization* means the formation and integration of various parts of the personality from the earliest and simplest neural aspects, to behavior patterns, constellations of ideas, emotions, drives, interests, likes and dislikes, sentiments and purposes. The achievement of this genetic-dynamic hierarchy of total personality functioning is achieved through and dependent upon intellectual, emotional and instinctive endowment plus experience, training, guidance, example of others, conscious and unconscious goals and purposes, promoted by effort directed toward unification in development. Organization of personality is achieved through overcoming regressive forces, and attained and maintained by making the necessary compromises between emotional-instinctive forces and the facts and demands of reality. Thus normal conflict becomes wholesomely resolved. However, conflict might give rise to abnormal repression or unfortunate handling of socially incompatible ideas, wishes, longings, feelings, sentiments, or antagonistic drives and purposes. Such unhappy results are largely due to poor habit training in making good choices and wise decisions. As a result we often find individuals complaining of a diffuse eruption of bodily symptoms not explicable on the organic level. These are body protests to worries, conflicts, fears and anxieties which indicate that the person is lacking in good organization and balance of his personality components.

*Balance* of personality refers to the proportion and symmetry of various parts of the personality. When we speak of a well-rounded or well-integrated personality we mean one which possesses more or less symmetry and unification of all its parts and meaningful relationships of behavior patterns; one which is able to successfully dissolve or harmonize internal and external conflicts by making wholesome choices and decisions and compromises with life as it is.



We need not elaborate on variations encountered in personality organization and balance. Experience shows that we may have any one of the three complex and yet inseparable aspects of personality in the lead or dominant; or we may note various combinations. But it is important to appreciate the importance of organization of each of the above components of personality at every level of development in connection with some major or dominant drive, sentiment or purpose, if we are to bring about good unification, balance and power of the personality. The well integrated person thinks, feels and acts in unison.

The many causes of poor organization, unbalance or lack of integration, such as poor hereditary endowment, intrauterine, birth and developmental anomalies, nutrition, infection and disease, poor habit training, peculiar experiences and their handling, and so forth, need not here be amplified. Moreover, we shall not elaborate upon the various psychological or physical types of personality or body builds which display varying degrees and combinations of the above three personality components, and their tendency to develop certain reaction-types of ill health when more or less imbalance occurs.

How may one's personality be developed, trained and improved? This is rapidly becoming the central theme and chief objective in education. Instead of merely studying subjects in preparation for jumping examination hurdles, educators with critical prevision are giving more and more attention to the study and unfolding of the total personality of the individual pupil and student in order that he might become reasonably happy, cultured, economically marketable and a social asset. It is not my intention to minimize the tremendous importance of an adequate grasp of the so-called tool subjects (reading, writing and arithmetic) and the impartation of knowledge, habits, skills and proper attitudes, as well as some attention to the physical and character aspects of the personality. This forms the foundation for the next stage of educational growth, namely, the study of meanings and results of implications and relationships of educational content to current social problems which have their root not only in varying degrees of inadequacy of power of thought,

but also in variations of emotional-instinctive factors, the mainspring of human behavior.

Since self-control of one's instinctive emotional life is the outstanding earmark of a well integrated personality, how may this aspect of *emotional education* be facilitated? First let us realize that control does not necessarily mean inhibition or repression, although normal repression or rather wholesome choice and decision, should be encouraged. Control is best brought about by the influence of good example of those with whom we have intimately associated, plus intelligent guidance, direction and followership. Impulses need not be expressed in their original, often crude, state; they may be diverted into suitable channels which are not only socially approved, but also individually satisfying because better organization of the total personality is promoted. If we would develop a richer and fuller personality, we should create new situations and opportunities to develop more impulses, desires and longings, and controls which are frequently experienced in conformity to convention, tradition and custom. Linking of personality development, with purposes, goals and aesthetic and social sentiments also aid in the achievement of better self-organization, true temperance and the golden mean. On the other hand, high-handed authoritative prohibition of human drives, wishes and activities tends to weaken character since it prevents practice in controlled expression. Human nature is so constituted that ambivalent or opposite tendencies and desires are apt to become uppermost when fundamental drives or wants are prematurely inhibited, or before the total personality is sufficiently educated to see and accept their value and have adequate time to make sublimations. Thus the question may be raised: How can aesthetic and temperate drinking habits be acquired where the imbibition of alcoholic drinks is prohibited? How can socially desirable sex behavior or social manners be cultivated where intermingling of the sexes is tabooed or unduly curtailed? How can moderation of the gambling tendency be cultivated or sublimated where all forms of gambling is strictly denied? How can aesthetic tastes and wholesome interests be acquired in literature, art, drama or movies if we dogmatically prohibit anything which smacks of

the riské, pornographic or obscene? How can religious tolerance be attained if there be stamped dogmatically into the minds of people that there is only one royal and exclusive road to salvation? How can moderation in smoking habits or any other sorts of social or personal habits be brought about if we prevent practice in control of instinctive or acquired action-tendencies or wants and at the same time thereby arouse a desire for them? This is a major problem in education for the home, school, church, community, civic and governmental organizations during the next three decades.

What have we to offer by way of *methods and devices in personality analysis and reconstruction*? How may one develop an attractive, charming or pleasing personality? How may one acquire a balanced harmony of outlook and maturity of personality? How may one iron out difficulties of adjustments to life by bringing about a happier balance of one's assets and liabilities?

Many *questionnaire forms* have been prepared which provide a simple check list of important traits, abilities, drives and interests and actions which color personality functioning. Such personality check-ups may prove helpful providing their limitations are realized and that they form merely one aspect of approach to the very complex functioning of personality. Many other facts of one's life record are essential if one is to avoid being misled by a mere cross-section sampling of behavior under highly artificial test conditions. Thus the *biographical life record* is essential in evaluating personality.

Mention should also be made of the method of *psychoanalysis* which has been enjoying an increasing popularity during the past 35 years. More recent developments in this specialty of psychiatry reveal the fact that psychoanalysis is not primarily concerned in symptom analysis but chiefly focuses upon character and personality analysis, synthesis and re-education by utilizing free associations of the patient, dream experiences, and interpretations by the analyst in a situation which profits by the transference relation, or rapport of patient with physician, and its handling during negative and positive phases. By such means, the patient becomes more and more conscious of his personality functioning, particularly with

respect to the unconscious part of his make-up which may have been causing maladaptation and symptoms because of repression of drives which were more or less antagonistic to conventional morality. Thus the causes of repression become recognized and accepted by the patient, and in this way, sidetracked life-energy or libido is made available for adult personality growth. With the understanding and overcoming of repressions, the patient is now in a position to constructively change the personality by making more wholesome, more mature choices and decisions with respect to behavior opportunities. Although psychoanalysis is a costly and time-consuming method of personality reconstruction, yet, in well-trained hands, it holds a legitimate place in psychotherapy, but by no means an exclusive one.

Finally, let us briefly consider the method of "*distributive analysis*" of Adolf Meyer. By means of a "life chart" which graphically represents various levels of personality integration, the person undertaking his analysis is afforded space to record the meaningful facts of his life record, including mental and physical happenings actions and reactions to definite life situations—personal, familial, environmental and sickness. Such an analysis singles out for critical evaluation such facts as work, recreations, social activities, interests, strivings, ambitions, idiosyncrasies, type of temperament, ratio of dreaming, thinking and action, composure, estimate of self and others, successes and failures, likes and dislikes and assets and liabilities. An attempt is then made to *balance the personality* by a satisfaction formula which aims to strike a wholesome balance of performance and mood in proportion to one's capacity, opportunity and ambition, and that in the light of the individual's vision of ultimate attainment and appreciation by others. Thus by reflecting on concrete situations of past performance, recognizing the role played by cause and effect, the person gains insight as to how favorable or undesirable reactions, attitudes, interests and habits took root. This paves the way for an appreciation of more wholesome choices and decisions in meeting life situations in the present and future, by profiting through past experience and its digestion.



A few practical suggestions or guide-posts may be erected which will help direct us in realizing maturity of growth in personality performance:

1. Since the intelligent segment of humanity has cast off the shackles of predestination and fatalism, we should capitalize opportunities to promote personality organization and balance. Personal desires and effort can largely determine personality development. But like anything else that is really worth the having, one must work hard for it, consistently and with singleness of purpose.

2. If we would possess a likeable personality we must sincerely wish it to the extent of critically analyzing our life performance for our weak points and balance these with our strong ones. The person must recognize and understand the causes of disagreeable traits, know how to replace them with more socially desirable and pleasant ones, and withall, a willingness to unremittingly strive through practice in reaching one's objective.

3. Because of the tremendous influence of example through suggestion and identification in moulding personality, serious attention should be given to the sort of human beings with whom one intimately associates. Parents and teachers must set their own house in order since their behavior patterns are apt to become engrafted on younger, sensitive, plastic human material.

4. Richness and stability of personality increases with the richness of impulses, wishes, desires, and their control or discipline. Therefore, create opportunities to expose the individual to a great variety of new persons and environments, but not out of proportion to his stage of development. The predominant result should be more or less success in life adjustment. The joy of accomplishment and realization of some degree of success in his undertakings are important motivations and incentives to carry on the growth process. You don't need "inspiration".

5. Should you feel that you are better or superior in ability to those about you, critically analyze yourself in order to estimate the relative roles of self-confidence and conceit. Size up a person on his concrete performance, rather than his own evaluation or manner. Both the blustery person and his opposite, the

individual with a quiet, unassuming air of efficiency, are apt to mislead themselves and others as to real capability in filling the job.

6. There is no more important responsibility than learning to understand yourself and others if we are to promote the art of living happily with ourselves and others. A personality study such as I have last outlined will assist you in realizing this desideratum. Recognize and accept your possibilities and limitations, in order to prevent unnecessary feelings of inferiority, frustration and disappointment. Welcome new points of view and cultivate a wholesome attitude of tolerance without sacrificing well-founded conviction and self-confidence.

7. Promote personality growth by treating others with due respect for their ideas, feelings, attitudes, philosophies and purposes. Mutual respect is a *sine qua non* for social progress. Create opportunities for freedom of thinking, feeling and acting. Utilize the value of goals, purposes and sentiments in unifying personality organization through the learning process. This will lead to a better evaluation of life values, needs and results.

8. Cultivate a sense of responsible individualism which encourages taking on of more and more responsibility in proportion to one's capacity, but also in the light of how others are affected. Social welfare must hold priority over individual wants, but the latter should be realized to the full in so far as the immediate and ulterior group welfare is not jeopardized.

9. Do not be too set in your purposes, goals or objectives. Human personality is too complex to predict with much reliability future performance or needs. Respect the individual for what he may become, judging this by his ability to profit by mistakes and what he is actually able to accomplish with a sense of satisfaction. Even Bernard Shaw warns us to respect young "nobodies" since you never can tell how they may turn out. Change of environment, new opportunities, time for growth in personality formation, and alteration in the pressure of life upon the individual may pave the way for unexpected personality developments.

10. Realize the importance of detecting and correcting physical as well as mental stress, strain and drains since these may cause un-

favorable personality changes. Periodical examination by your family physician and the seeking of expert medical advice at the first sign or symptom of personality disorder will not only save you unnecessary discomfort but will also aid in preventing more serious developments.

State Education Department.

## TUBERCULOSIS IN CHILDHOOD\*

With X-ray and Postmortem Slides—

EUGENE T. McENERY, M. D.

CHICAGO

The diagnosis of tuberculosis in childhood rests upon the following factors, namely: History of contact, physical examination, tuberculin tests and roentgenological findings. To evaluate these four factors as to their relative values in the diagnosis, I would place them in the following order: Roentgen findings, tuberculin tests, history of contact, and last, physical findings. It is difficult if not impossible to make a diagnosis of tuberculosis in children on physical findings alone, and it is in view of this fact that this series of slides will be presented to show you what was seen on the x-ray film and what was found in the pathological specimen.

The primary complex in childhood may be located anywhere in the lung. It usually consists of perihilum or small or extensive parenchymal infiltration in the lungs, which slowly resolves to be replaced eventually either by calcified hilum glands alone, or by Ghon's tubercle associated with calcium deposits in the adjacent lymph nodes. It is only when calcium is present in the tissue that the primary lesion is discernible on the x-ray. Postmortem findings have repeatedly shown this to be true.

Perihilum infiltration frequently cannot be seen on the x-ray and yet large caseous glands in and about the hilum are found at autopsy.

Miliary tuberculosis: This type of lesion following in the wake of the acute exanthemata does not show characteristic chest findings on physical examination and unless serial plates are taken the true diagnosis is missed. The small miliary tubercles unless calcified will not show on the x-ray. The typical "snow storm" appearance should not be confused with that

of a broncho-pneumonia which clears up in a short while.

Cavity formation: Occasionally in childhood one sees overwhelming pulmonary infection with extensive infiltration into the parenchyma of the lungs. These cases are afterwards diagnosed as pneumonia but the course is too long and serial x-ray plates show the consolidated area changing. Casetion and excavation do not take place rapidly and it may be some time before a child has the typical physical findings of a cavity and accompanying positive sputum. Many times these caseous areas only show a slight "moth-eaten" appearance on the film and pathologically the process is more extensive. This is because of the lack of calcium in the tissue.

In conclusion: To be complete in our search for early pulmonary lesions in childhood, it is necessary that we take x-rays of the chest, for frequently physical findings may be negative and a roentgenogram may show considerable involvement. In addition the tuberculin test is of great importance and combined with a history of contact, an early diagnosis can be made at a time when proper treatment will be of considerable aid, instead of waiting for the physical findings to appear when usually the process is so well advanced that it is only a question of time until the child succumbs to the disease.

707 Fullerton Ave.

## DISCUSSION

Dr. Fred Meixner, Peoria: I think Dr. McEnery has given a wonderful description and detailed account of the differential diagnosis of pulmonary tuberculosis. I think as he does that we make sometimes entirely too much of one particular phase of tuberculosis diagnosis and neglect the others. As he mentioned, it is very difficult to differentiate which is more important, physical examination, history of tuberculosis, contact or x-ray examination or tuberculin test. In one particular case one may be paramount over the other.

As the Doctor has shown, very frequently the x-ray interpretation and findings will not bear out the clinical history or autopsy finding. I think he has made a beautiful case out of the fact that you cannot take the x-ray for one hundred per cent. when it comes to diagnosis of tuberculosis in childhood. I am glad he is following Armond DeLille, Steinle, Engle and men of that type who are doing this type of work, that is, doing the clinical work, the x-ray and laboratory work and following it with postmortem.

I do not think there is any subject in the field of medicine where there has been so much loose thinking, so much profuse writing and so few facts that can be

\*Read before the Section on Radiology of the Illinois State Medical Society, Peoria, May 17, 1933.



substantiated by postmortem as in the subject of pulmonary tuberculosis in childhood. In the average case, if you have tubercle bacilli in the sputum, the physical signs and the x-ray show the lesion of adult tuberculosis. When you find either the child is one of those 75 to 90 per cent. past help or the child has already formed calcareous-caseous tubercles and has walled the infection off, and what you find is an extraneous healed affair with possibly an acute activity. Tuberculin and x-ray, I think, should go hand in hand. I do not believe you can differentiate the one and say that is important over the other or is not so important. You cannot pick out the tuberculous children unless you make the tuberculin test. You cannot prove the tubercles unless you have the calcareous tubercles in the x-ray picture.

The clinical question is, are you trying to diagnose a tuberculous lung or trying to diagnose tuberculosis in the child. It has been common in a great many children, perfectly healthy, with normal x-ray findings, no history of contact that they will give a positive tuberculin reaction. Dr. Rivier has shown that you can find a dullness between the scapula and spine in a great many cases and make a diagnosis of pulmonary tuberculosis but the autopsy will not follow it up.

Halls and Friedman did rather an amusing piece of work, submitting series of x-ray plates to six separate interpreting individuals, a pediatrician, two chest specialists and three x-ray men. No one agreed on the interpretation of that series of plates, showing we still do not know how to interpret the x-ray plate from the standpoint of clinical findings. Wolf and Stone have recently written an article, which you have probably read in the *Journal of the American Medical Association*, in which they called attention to the hilus shadows without calcifications, as the Doctor has shown in one case. They may be tuberculous and may not. If you make a tuberculin test and it is positive, you have not proved that they are tuberculous either. That brings us to the question I asked a minute ago, do you want to diagnose a tuberculous lung or a tuberculous child? I think if you take a history of contact, get a positive tuberculin test, find calcareous-caseous tubercles and the child is undernourished and with a moderate degree of anemia, you can treat it as a tuberculous child no matter what the findings or interpretations are.

I happen to be particularly interested in this work because we have been doing a series of tuberculin tests followed by x-ray in the Peoria city schools. We sent a note to the parents asking them whether they wanted their children given a physical examination. The physical examination was not carried out with the idea of making a diagnosis from the physical examination, because it is impossible to make a physical examination on a child and determine the presence of tuberculosis unless that child is already at the stage where nobody can do it any good—where it may be a subject of one of those postmortem findings.

Bronchial pneumonia and syphilis of the lung can simulate pulmonary tuberculosis, so the physical examination is worthless from the standpoint of diagnosing tuberculosis, but it picks up the undernourished, pale child, the child with enlarged glands which you are

suspicious of having tuberculosis. Then we make a tuberculin test on the child. If the tuberculin test is negative in an otherwise healthy child, that child is dismissed until further observation is necessary. We follow those who do have a positive tuberculin test with x-ray whenever we can. The ideal thing would be to examine those 100 per cent. not only with one plate but, as the Doctor said, with serial plates repeatedly made. One plate does not prove anything on a child's chest. If we follow these up and find these caseous-calcareous tubercles, we are sure it is a case that needs treatment regardless of whether the child shows any activity at that time. The child is put in a sanatorium or open window room, whichever is proper for the child. In other words, the x-ray is not an adequate diagnostic aid.

To sum up the diagnosis of childhood tuberculosis, first, the x-ray is not an adequate diagnostic aid; second, laboratory tests by themselves are inadequate; third, physical examination is only useful when its findings are borne out by the others. The tuberculin test is especially valuable from the standpoint of taking a group of children and running them through to find the tuberculous ones. History of contact is only valuable if you can prove that you have found something by the other methods. In other words, when the child still has tuberculosis in the pulmonary nodes or in the intestinal nodes, then is the time that you can do that child the most good. Then is when your x-ray findings will not be positive. When the x-ray findings and the physical signs in the chest are positive your child is already pretty far along in the diagnosis. We should try to diagnose the tuberculous child rather than the tuberculous chest.

I want to thank the Doctor. He and his associates in this work are following in the footsteps of other men, and work of this sort will ultimately lead us to the point where we will be able to make a diagnosis, I think, of pulmonary tuberculosis or of tuberculosis in a child before it becomes pulmonary, making it possible to take those children and put them in preventoriums or sanatoriums properly conducted or open window rooms in the public schools and prevent pulmonary tuberculosis in adult life.

Dr. Thomas Cantrell (Bloomington): We have had rather a gloomy picture of tuberculosis in childhood today. You notice that by the autopsies. Such a picture is not a true picture of tuberculosis in childhood taken as a whole. The tendency of tuberculosis in childhood is to get well. While the x-ray is pretty valuable in the diagnosis of tuberculosis as well as other methods, we find, especially out here in the country, that our children are best treated in the home.

After a diagnosis is made, the x-ray is invaluable in finding the process that the child is going through in the future; whether the child is tending to get well or whether it is not, it is best treated in the home, if the home is clean, not infected with tuberculosis. If pictures are taken of that child every month for three or four months, and by comparison of those pictures it is found the child is not improving, the thing, then, is to turn the x-ray upon the associates in that home and

find the ones who have the latent tuberculosis, which they are so liberally distributing and place that patient in a sanatorium.

Why are children better treated in the home? You cannot treat a child successfully with any disease unless that child is extremely happy. There are very few children who give mental assent to leaving father and mother and going to a hospital or sanatorium without considerable fretting. As long as that frame of mind persists and you have not the mental assent of the child, the child is in the very worst possible condition.

For that reason, we prefer to treat the child in the home and isolate, if necessary, any of the adults in the home who are really infecting the child.

Dr. McEnery: First of all, I wish to thank the doctors for discussing my paper, and while we have had a gloomy outlook on tuberculosis this afternoon, still I feel the same as Dr. Cantrell—that childhood tuberculosis is not always fatal. Recently a paper was published by Stewart in Minneapolis in which he stresses the point that childhood tuberculosis of the type I showed on the slides showing a massive infiltration out from the hilus usually gets well. In the series he presented, not one case died of a primary infection. In the series of cases that I have, it does not seem to follow. Of course, the type of infection may be a little different.

In the case of the six months old babies, these are primary infections, but there are many things we cannot as yet determine in the study of tuberculosis,—that is to say, the dosage of the organism, the virulence of that organism and the resistance of the host are three things that cannot be measured. Until we can determine these, it is going to be difficult to determine when such a case is going to get better and when one is going to have a fatal termination. These cases received a massive dose and died of advanced pulmonary tuberculosis.

The point which Dr. Cantrell brings out should be well taken, that is, to remove the child from the tuberculosis exposure. If a person in the family has tuberculosis, he should be taken out of the family. If that cannot be done, the child should be isolated. But it is pretty difficult to isolate a child from a parent. In this community, it may be all right to keep them in the home. In the larger city, it is difficult to keep the child in the home with a tubercular family. Usually these children come from poorer classes of homes—colored, Mexican, and so forth. The economic situation is not good and the best thing you can do is to put them in a sanatorium although I agree that a sanatorium is not the proper place to keep children. If it is a far advanced case of pulmonary tuberculosis, you can keep them in bed and make them do things the parent cannot have them do in the home, but if it is the childhood type of tuberculosis where you have a massive infiltration in the parenchyma of the lung with enlarged hilus glands which eventually heal and leave scarring in the gland around the hilus or Gohn's tubercle, that child should not be kept in the sanatorium but in the home.

The importance of the serial x-rays in the diagnosis of tuberculosis in childhood is very important. Again

let me admonish you that if you have a child that gives a history of contact and shows some shadows in the parenchyma of the lung, don't be content with examining the child every month or three months on clinical examination alone, but take an x-ray to make the findings complete.

## CHRONIC INFECTIONS OF THE PROSTATE GLAND.\*

CLARENCE H. BOSWELL, M. D.

ROCKFORD, ILLINOIS

Welch states, "It is not more knowledge which is needed so much at the present time as a more universal application of what already exists." There are plenty of proven facts concerning infections of the prostate gland but their application to general medicine must be stressed. The neglect of prostatic studies may be attributed to three things, viz:

1. The failure of far too many physicians to make the rectal examination a routine procedure.
2. A lack of knowledge of the real etiology of prostatic infections.
3. Not sufficient emphasis being placed on the prostate as a focus of infection.

The routine rectal examination is of unquestionable importance and, supplementing it, a microscopic examination of the secretion from the prostate and a culture of this secretion may be factors of prime importance in the search for obscure diseases.

For years we have been complacently accepting the idea that all infections of the prostate gland and seminal vesicles were of gonococcal origin; and that, if there was no history of gonorrhea, infections of the prostate could then be safely ruled out. Text-books still state that gonorrhea is the etiology of these infections. What part it really does play is in doubt, and continues to be a point of controversy. Stuhler, at the Mayo Clinic, says that gonorrhea plays no part in 56 per cent. of their cases of chronic prostatitis. Pelouze recently reports that out of 100 such cases, only two had had an attack of gonorrhea within twenty years, and that only seven gave a history of ever having gonorrhea. Surely, the old belief has little to substantiate it.

In searching for foci of infection, the physician rightfully studies the teeth, tonsils, and

\*Read before Section on Medicine, Illinois State Medical Society, Peoria, May 17, 1933.



sinuses at once; but statistics show that an average of four and one-half years pass before prostatic studies are made.

The frequency with which these prostatic infections are met parallels the intensity of the search made for them. Pelouze states that 72 per cent. of men, having focal infection symptoms, have definite infections in their prostates; and that 35 per cent. of all men over thirty-five years carry such foci of infection. From these facts, we must emphasize that in the male there are three main foci of infection, teeth, tonsils, and prostate, the so-called, "Triad of Infection."

*Etiology.* If infections are present in the prostate in any such proportion of cases as we have stated, then the questions must be asked: "How do they get there?" and "Are they of any pathological significance?"

They may arise either by direct extension from the urethra or by invasion from the blood stream.

From the urethra the gonococcus would be the usual infecting agent and it, no doubt, is the cause of many acute inflammations of the prostate. Investigation has shown that this organism dies out quickly, probably eighteen months being the time limit in which it may be isolated. After this, only secondary invaders are found.

Urethritis, due to other bacteria, may infect the prostate; or the prostate may be the cause of simple urethritis.

Recently studies show, however, that prostatic infections are rarely primary; they are, in an overwhelming majority of cases, associated with dental and tonsillar infections, and these latter constitute the primary foci from which the prostate obtains its infection. Occasionally other foci may be the source of trouble. Among these are listed the gall-bladder, intestinal tract and, rarely, the facial sinuses.

*Bacteriology.* Cultures taken from the infected prostate show a multiplicity of organisms, usually with one predominating. Pelouze finds the Staphylococcus most frequently and next the various strains of Streptococci. Allen Nickel, after analyzing 3,500 cases at the Mayo Clinic comments: that the normal prostate contains a mixed flora of microorganisms just as the mouth; that the long chain Streptococci are probably not pathogenic; that the short chain

and hemolytic Streptococcus and the hemolytic Staphylococcus should be regarded with suspicion. The Streptococcus viridans has been isolated from prostates and seminal vesicles in man; when injected into experimental animals, it shows a marked tendency to localize in tissues of the animal comparable to those of the patient which were diseased. These organisms will not grow aerobically, and such cultures, taken alone, are therefore misleading. The routine procedure should include both aerobic and anaerobic cultures.

*Pathology.* Whatever the organism may be, infection is definitely present; and every infection produces a definite inflammatory reaction in the tissues. This consists of areas of round cell infiltration throughout the structure of the gland. As connective tissue replacement progresses and fibrosis occurs, many of the tubules become occluded and the acini become distended with debris; drainage of the glands thus becomes blocked. As the fibrosis advances, sensory nerves may become impinged, producing perineal pains and itching. Following a long period of infection, the fibrosis may involve the whole gland, and a small hard prostate result.

More acute conditions may cause swelling of the prostate gland and seminal vesicles, resulting in large tender masses, which, by their pain, may simulate acute appendicitis; or by their mass, may completely block the intestinal track. A rectal examination should be made in all cases of suspected appendicitis or intestinal obstruction.

When areas of the gland lying below the bladder floor are involved, transverse contractions may result, and ridges will appear in the floor of the bladder. These are the inflammatory types of median bars, and are a frequent cause of urinary obstruction.

*Symptoms.* Culver divides the symptoms of chronic prostatic infection into four main groups:

1. Urinary.
2. Sexual.
3. Referred.
4. Metastatic.

The urinary group includes those whose complaints are frequency, dysuria, nocturia, incontinence and other changes of urinary control.

The sexual group presents all types of impotency, sexual inferiority and the usual complaints of the sexual neurasthenic.

The referred group includes those complaining of low backache, rectal and perineal pains. According to Head, the nerve supply to the prostate is from the sympathetic and parasympathetic fibres arising from the tenth dorsal to the third sacral segments. Thus, it is possible for a prostatic pain to be referred to any part of the body below the diaphragm. This pain may be the result of tension on the prostate gland from swelling within its capsule, or impingement of the nerve, within the gland, by fibrosis.

Von Lackun has reviewed 850 cases of low backache associated with prostatitis or seminal vesiculitis. All cases in which the backache could be attributed to any other cause, such as arthritis of the spine, trauma, sciatica, sacroiliac strain, were excluded from the series. There remained 301 cases. The average duration of the backache in this entire group was five years. The pain was variable in character, sometimes only a discomfort, other times a stiffness, burning, bearing down ache and soreness. Of those who received treatment directed toward the prostate, over 90 per cent. became symptomatically well or definitely improved. This emphasizes the importance of investigating the prostate in every case of low backache.

Rectal pain is frequently the first complaint. It may be of sharp shooting character or, more often, a dull ache noticeable particularly when the patient has been sitting. Pressure from feces or gas in the rectum aggravates this pain, and emptying the lower bowel relieves it.

The metastatic group includes those where distant parts are diseased by toxins or infections borne by the blood stream from the prostate. These conditions are so important that they should be enumerated; they have been proved to be of focal origin and include: neuritis, ocular infections, secondary anemia, backache, low abdominal pain, vasomotor skin diseases, functional gastric complaints, and torticollis.

In producing these disturbances, the prostate is usually associated with other foci, but it may act solely by itself. This latter statement is not accepted by some investigators; they feel that the prostate acts as a focus of infection only so long as other foci exist to feed it.

*Diagnosis.* Symptoms may point out the diagnosis of prostatitis but it must be confirmed by

digital examination through the rectum and a microscopic study of the expressed secretion. Because the prostatic glands may be occluded, a single negative examination should not be final; repeated massage may open these occluded tubules and reestablish drainage. An examination then will show pus cells, bacteria and debris, the evidences of infection.

The size of the prostate is no indication of the amount of the infection present in the gland, and the number of pus cells found in the expressed secretion is not a necessary index to the virulence of the microorganism.

Prostatitis may be graded according to the severity of its clinical symptoms, or according to the number of pus cells contained in the expressed secretion. Thus:

- Grade 1. From five to ten cells per high power field.
- Grade 2. From ten to fifty cells.
- Grade 3. From fifty to one hundred and fifty cells.
- Grade 4. More than one hundred and fifty cells.

The presence or absence of pus cells in the urine is of no diagnostic importance; however, pus cells are usually present. The blood count shows nothing characteristic, often, only a mild secondary anemia.

*Treatment.* In management of prostatic infections, Pelouze makes some rather fixed rules:

1. Prostatic infections cannot be permanently cleared up so long as the casual foci remain.
2. Dental and tonsillar infections are the usual ones to be eradicated; and teeth must be rechecked at frequent intervals because new infections are prone to appear.
3. With these eliminated, the gall-bladder and gastro-intestinal tract should be searched for casual foci.
4. There should be an improvement in the pain of neuritis and arthritis within four weeks treatment, and an improvement in the prostatic secretion within six weeks. If this does not result, or if there is a recurrence, then some other foci must still exist.

The universally accepted treatment is properly applied digital massage at proper intervals. This massage must be gentle but thorough; it should not be repeated more often than twice a week, and must be omitted if followed by severe reaction. These reactions consist of chills, elevation of temperature, and increased pain in distant parts. They correspond to a protein or



vaccine reaction; their severity must be a guide to future treatment.

In patients with tuberculosis or with acute eye infections, massage should not be carried out, else irreparable harm may be done.

Massage may or may not be followed by instillation of weak silver solution into the urethra.

Rectal irrigations of hot water, previous to massage, are recommended by Wright, with the idea that prolonged heat around the prostate softens and tends to liquefy the pent-up purulent secretion in the follicles. Diathermy may be similarly employed.

Kohlman dilators were formerly used to dilate the posterior urethra and press out occluded follicles, but, at the present time, their use is considered too harsh.

In cases where the *Streptococcus* is the offending organism, autogenous vaccine seems to be very helpful; in other cases, vaccines do not give consistent results. Where the *Staphylococcus* predominates, intravenous injections of small doses of Neoparsphenamine are said to have excellent bactericidal effect.

Where median bar obstructions are of inflammatory origin, conservative treatment, directed toward the underlying prostatic infection, should be continued until proven of no benefit.

The goal of treatment should be the relief of the complaining symptoms and, if possible, the disappearance of pus cells in the prostatic secretion. This last is rarely obtained. Examinations should be repeated frequently during a period of several years.

*Summary.* Chronic prostatic infections are frequently overlooked because of incomplete examinations.

Their recognition is important. They must be included with the teeth and tonsils to form the most important members of the focal infective group in the male.

One-third of all men over thirty-five carry infected prostates.

The gonococcus plays little part in their etiology. Other microorganisms, particularly the *Staphylococcus* and *Streptococcus*, are the usual ones found and they are believed to come from primary foci elsewhere in the body.

Chronic prostatic infections, being secondary to infections elsewhere, will not clear up until these foci have been eradicated.

Repeated prostatic massage seems to be the most effective procedure in their treatment.

303 North Main Street.

## REFERENCES

- Beck, H. G.: Relation of Urologic diseases to Int. Med. Jour. of Urology. 1930, 23, 247.  
 Cecil, R. S.: Etiology of Rheumatoid Arthritis. Am. Jour. Med. Science. 1931, 181-1, 12.  
 Culver, Harry: Chronic Prostatitis. Jour. of Urology. 26-3, 401.  
 McCarthy, J. F.: Chronic Seminal Vesiculitis. Jour. of Urology. 26-3, 415.  
 Morris, H. S.: Urologic Backache. Jour. A. M. A. 1932, 99, 27, 2237.  
 Nickel, A. E., and Stuhler, S. G.: Prostate Gland as a Focus of Infection in Arthritis. Reprint.  
 Nickel, A. C.: Bacteriology of Chronic Prostatitis. Jour. of Urology. 1930, Vol. 24, 343.  
 Pelouze, P. S.: The Medical Importance of Focal Infective Prostatitis. Amer. Jour. Med. Science. 1932, 184-2, 254.  
 Pelouze, P. S.: Gonorrhea in Male and Female. W. B. Saunders Co. 1931.  
 Pemberton, Ralph: Arthritis and Rheumatoid Conditions. Lea and Febriger. 1929.  
 Stuhler, L. G.: Purpura of Infectious Origin.  
 VonLackin, W. H.: Prostate and Other Foci of Infection in Relation to Low Backache. Med. Jour. and Record. Oct. 15, 1930.  
 VonLackin, W. H.: Acquired Posterior Vesical Lip Obstruction. Jour. Urology. 1929, 22, 57.  
 Young, H. H.: Practice of Urology. Saunders. 1926.

## DISCUSSION

Dr. Harry A. Durkin, Peoria: Dr. Boswell has covered a timely subject in a very thorough manner. The prostate is the "forgotten man" in the field of focal infection. The figures which he quotes, that "35 per cent. of all prostates are infected and 70 per cent. of individuals who present symptoms of focal infection have infected prostates," are truly amazing. I am sure that this situation is not adequately appreciated by the medical profession at large. It is important therefore that we include the prostate in our search for foci of infection.

In this connection, I would re-emphasize what he says about not being content with one massage. Not infrequently, pus is obtained only after two or three attempts. In order to illustrate several of the more important points it might be profitable to cite a few cases.

Case One is a young man of twenty-six with a three years' history of pain and swelling in the ankles. He had never had gonorrhea. Tonsillectomy, extraction of teeth, drugs, and physiotherapy had been of no avail. When seen in 1930, he was obviously below par. There was a definite secondary anemia and definite arthritis of both ankles. The prostate was boggy and the secretion showed much pus. He made an uneventful recovery with routine biweekly massages. He illustrates the long interval which may elapse between the onset of symptoms and the eventual discovery of the true focus of infection.

Case Two is a young man of twenty eight who developed a severe iritis. Dental films were negative. Tonsillectomy, one week after onset, resulted in a brief improvement and was followed by an exacerbation with

additional involvement of the uveal tract. He was referred for further investigation and examination disclosed a badly infected prostate. Routine massages resulted in a progressive improvement and restoration of his eye to normal. Incidentally, a chronic low backache from which he had suffered for a number of years completely disappeared.

Case Three is a patient of forty, who in 1931 developed a pyuria. Careful urological examination ruled out everything except a moderately hypertrophied and badly infected prostate. Routine massages were instituted. Within eight hours after his tenth massage, he developed a severe pain in his right eye with a definite chill and a temperature. Within twenty-four hours, he had a moderately severe iritis. He illustrates one of the possible dangers of prostatic massage.

In conclusion, it would seem that the prostate, which is such a frequent offender and which lends itself so readily to examination, should be among the first foci to be investigated in all men who present symptoms of focal infection.

### OCULAR MANIFESTATIONS IN TRY- PARSAMIDE TREATMENT OF SYPHILIS.\*

LEO L. MAYER, M. S., M. D.,

AND

R. DENTON SMITH, B. S., M. D.

CHICAGO

Tryparsamide is a pentavalent arsenical compound of great value in the treatment of syphilis of the central nervous system. The drug was first derived from atoxyl in 1917 by Jacobs and Heidelberger<sup>1</sup> of the Rockefeller Institute. The strikingly beneficial effect of the new drug, particularly in the treatment of paresis, was established in the clinical studies of Lorenz and his associates in 1923.<sup>2</sup> The following year Brown and Pearce<sup>3</sup> published their important pharmacologic study of the properties of tryparsamide in the experimental animal. It was soon demonstrated that this derivative of atoxyl, like its precursor, had a tendency to produce visual damage, probably because of selective affinity for the optic nerve. This was emphasized by the preliminary report of the Council on Pharmacy and Chemistry of the American Medical Association.<sup>4</sup>

As the drug came into wide clinical use numerous reports appeared which confirmed this experimental observation, and leading syphilologists urged caution in its administration—

particularly in cases where there was any pre-existing lesion of the optic tract. Today with tryparsamide universally accepted as the most effective chemotherapeutic agent in the management of neurosyphilis, close cooperation between the syphilologist and ophthalmologist and the routine ophthalmologic study of every patient with neurosyphilis is most essential.

From Johns Hopkins came the first careful and thorough evaluation of visual disturbance made by Woods and Moore<sup>5</sup> as a separate contribution of the results over a four year period.<sup>6</sup> These investigators divided ocular disturbances into two classes, subjective and objective. To each class the symptoms of dim or dazzling vision were common. Ophthalmologic examination was entirely negative in the subjective class. In the objective class the outstanding feature was the constriction of visual fields for form, without scotomas, and with or without diminution in visual acuity. In the first class they felt that there should be no hesitancy in continuing the drug but advised permanent withholding in the second class. In 241 patients 10.2 per cent. developed reactions of the subjective type and 5.5 per cent. of the objective type.

In September, 1924, was published the report of a year's use of the drug by Ebaugh and Dickson.<sup>7</sup> Nearly one-third of the cases selected for treatment were ruled out because of what was considered contra-indicative ophthalmologic findings. Only one case treated with tryparsamide showed optic atrophy after treatment was begun. Patients having visual complaints but no objective findings during treatment, were continued and no amblyopia resulted. The next report from an ocular standpoint came from Lillie<sup>8</sup> at the Mayo Clinic. He divided his cases as follows:

1. Ocular change in *untreated* syphilis.
2. Ocular changes in syphilis treated with arsenicals *other than* tryparsamide.
3. Ocular changes in syphilis treatment *with* tryparsamide.

In the first group 50 per cent. showed changes. In the second group 12 per cent. had visual changes and 20 per cent. perimetric field disturbances. In the third group out of 114 cases only 13 patients or 11 per cent. had visual disturbances, 9 of which were entirely subjective; 4 patients or 3 per cent. had decreased vision

\*Read before Section on Eye, Ear, Nose and Throat at the Illinois Medical Society, Peoria, May 17, 1933.



and interference with perimetric fields. He concluded:

1. Changes in vision and perimetric fields are much greater in untreated syphilis.

2. Ocular changes occur as frequently under arspenamin as with tryparsamide.

Following this Cady and Alvis<sup>9</sup> drew the following conclusions from their work:

1. Tryparsamide can be used by experienced persons with comparative safety on patients having normal optic tracts.

2. Patients with optic involvement such as contracted fields or abnormal fundi, are more liable to injury by treatment than normal patients, but show favorable response to treatment if properly controlled.

3. The most important signs of adverse action of the drug on the optic tract are subjective dimness of vision, flickering or shimmering sensations or flashes of light; also objective diminution in the visual acuity, contraction of the visual fields and changes in the fundi.

4. The occurrence of subjective symptoms should be thoroughly investigated for an objective basis. If no objective signs are found, tryparsamide may be continued with caution. The presence of objective findings is a contra-indication for further tryparsamide for at least one month, when it may usually be resumed.

Dancy<sup>10</sup> had the following to say:

"It is my experience that changes in vision and fields are more extensive in untreated syphilis than in cases treated with tryparsamide. All the ocular changes take place as frequently during the use of other arsenicals, and the use of tryparsamide is not contra-indicated in my opinion where we have fundus changes. And it is my opinion that changes in vision and fields are temporary, and that the value of tryparsamide with its penetrability and selectivity for new tissue outweighs any possible objection to its use in any cases of syphilis of the central nervous system."

Neff<sup>11</sup> properly cautions as to conclusions drawn from a limited number of cases. Further he remarks that one sees a fair percentage of cases showing improvement in visual and in ophthalmoscopical findings in the course of tryparsamide therapy and in some cases he gained the impression that the therapeutic response in the optic tract has been better than that noted under arspenamine and neo-arsphenamine. From our own state Dr. Roth<sup>12</sup> of Kankakee reported that tryparsamide may be given in neurosyphilis with safety to the optic tract providing the patient is closely observed by the ophthalmologist. Only 2 per cent. of the 1,254 cases of neurosyphilis treated with tryparsamide as seen by Casten<sup>13</sup> had permanent visual damage. He had much success in using Kubie's<sup>14</sup> forced drainage of the spinal fluid in cases where visual disturbances occurred.

In reviewing for you the history of the use of tryparsamide it has been necessary because of the limited time to hit only the high spots, and thus many interesting references had to be omitted. J. Earle Moore,<sup>15</sup> chief of the syphilis clinic of Johns Hopkins hospital, and recognized as one of the outstanding syphilologists of this country, has recently published a brilliant and authoritative monograph on the syphilitic optic atrophies. He finds the entire subject in a state of much confusion and recommends, in order to clarify the clinical situation, a most careful study from the standpoint of pathologic physiology of the eyes, of a large number of syphilitic patients in all stages of the infection and with all types of neurosyphilis, the patients to be closely followed and periodically reexamined.

It is our hope that we have, in a measure, fulfilled this recommendation and we offer our observations as a preliminary report to which subsequent reports will be added in years to come concerning this same list of patients.

The present clinical study of a series of 87 patients with neurosyphilis undergoing tryparsamide therapy was conducted at the Public Health Institute of Chicago during the period of approximately one year. This research was made possible through the courtesy of Dr. Leon Bromberg, the director of the syphilis division. The cooperation of the clinic chiefs and members of the professional staff of the Institute in furthering this study was whole hearted and deeply appreciated.

Patients are quite thoroughly studied in this clinic before treatment is instituted. Every patient with neurosyphilis is examined by the staff ophthalmologist before tryparsamide is given. If any ocular symptoms develop during treatment, the patient is again referred to the consultant for a complete appraisal before therapy is resumed.

Although every effort is made at the Institute to individualize the treatment of patients in the light of their particular problems and established tolerance, it may be stated that in general the average uncomplicated case of neurosyphilis is given intermittent courses of therapy as follows: Two weeks of preparation with bismuth and iodides. Then, during the following two months eight injections each of bismuth salicy-

late (average dosage 0.2 grams) intramuscularly, and tryparsamide (average dosage 3.0 grams) intravenously, are concurrently administered. The patient is then rewarded with a month or six weeks' rest from treatment before another similar course is undertaken. The patient is routinely studied by the ophthalmologist at the beginning of each course. Since one of us (R. D. S.) was the staff ophthalmologist at the Institute during the period covered by the present clinical study, complete control of the patients was maintained, and frequent examinations were possible.

For the sake of convenience we have grouped our series of eighty-seven cases in the following five diagnostic categories: 1. Optic atrophy, 15 cases; 2. Paresis, 14 cases; 3. Tabes dorsalis (without optic atrophy), 20 cases; 4. Meningo-vascular syphilis, 4 cases; 5. Asymptomatic neurosyphilis, 34 cases. The ocular examinations were of three kinds, measurement of corrected

visual acuity, peripheral visual fields for white and red, and evaluation of the optic disc with the fundus colorimeter.

This last named examination requires some explanation. In 1919 Dr. Martin Cohen of New York City presented his fundus colorimeter before a meeting of the American Academy of Ophthalmology and Otolaryngology.<sup>16</sup> It consists essentially of an electrical ophthalmoscope having a wedge colored with magenta interrupting the beam of white light entering the patient's eye. By turning the wedge the optic disc is saturated with varying degrees of a red coloring, and thus the deviation in the color of the disc from the normal is made measurable. Through the kindness of Dr. Cohen we were able to use his original instrument, a separate report of which will be found in a publication by one of us (L. L. M.).<sup>17</sup> These cases of syphilis which we are reporting were all under tryparsamide therapy during the period of our

#### 1. THE GROUP WITH ASYMPTOMATIC NEUROSYPHILIS.

Case No.	Fields	Vision OD—OS	Courses	1st Treatment	Reg	Age	Reactions	Colorimeter
22750	OK	20/20—20/20	5	1922	+	37	0	10/11
27470	OK	20/30—20/30	6	1927	+	41	0	14/14 12/9
90789	OK	20/30—20/30	4	1912	+	40	0	12/12 10/10 10/18 9/8
114323	OK	20/20—20/20	3	1929	+	29	0	8/8 8/8 8/8
128213	OK	20/20—20/20	7	1931	+	35	Subjective	20/20 10/20
133915	OK	20/20—20/20	2	1924	+	28	0	10/10
124481	OK	20/20—20/20	6	1930	+	39	0	8/8
128081	OK	20/20—20/20	7	1931	+	30	0	10/11 /
122577	OK	20/20—20/20	10	1930	+	50	0	8/8 11/12
135441	OK	20/20—20/20	4	1931	+	31	0	9/10 8/8 9/10 8/9
136331	OK	20/20—20/20	3	1929	—	28	0	10/10 10/10
137028	OK	20/20—20/20	1	1932	—	42	0	10/12
138599	OK	20/20—20/20	0	1932	0	27	0	8/8
137316	OK	20/20—20/20	1	1932	—	43	0	10/8 10/8
124481	OK	20/20—20/20	7	1930	+	40	0	8/8 8/8 10/8 8/8
138875	OK	20/20—20/20	2	1932	+	40	Mod. severe	8/9 12/11
124253	OK	20/20—20/20	1	1920	0	40	Mod. severe	8/8 8/8
36014	OK	20/20—20/20	6	1923	+	32	0	10/10
122210	OK	20/20—20/20	5	1930	+	42	0	8/8 8/8
122577	OK	20/20—20/20	10	1930	+	50	0	11/12 12/12
129229	OK	20/20—20/20	3	1930	0	19	0	10/10 10/10
32184	OK	20/20—20/20	11	1923	+	31	At end of each course	9/8 9/9
136603	OK	20/20—20/20	3	1932	+	27	0	8/8
8190	OK	20/20—20/20	6	1921	+	46	0	8/8 8/8 5/5
79380	OK	20/20—20/20	10	1927	+	39	0	8/8
79573	OK	20/20—20/20	7	1917	+	36	0	8/8
28889	OK	20/20—20/20	3	1931	+	42	0	8/8 8/8
19487	OK	20/20—20/20	3	1924	0	37	0	8/8
28786	OK	20/20—20/20	4	1931	+	35	0	9/9 9/9
27289	OK	20/20—20/20	2	1930	0	26	0	8/8 9/9
30618	OK	20/20—20/20	1	1932	+	32	0	9/9 9/9
29853	OK	20/20—20/20	1	1929	+	22	0	10/10
27921	OK	20/20—20/20	2	1929	0	22	0	8/8 8/8
19487	OK	20/20—20/20	3	1928	0	38	0	7/8 8/8

#### 2. THE GROUP WITH MENINGE-VASCULAR SYPHILIS.

100929	OK	20/20—20/20	5	1928	+	46	0	19/15 16/10
138265	OK	20/20—20/20	0	1931	+	45	0	8/8 8/8
33379	OK	20/20—20/20	3	1922	+	32	0	8/7 11/9
133957	OK	20/20—20/20	4	1930	+	51	0	10/10 10/10



## 3. THE GROUP WITH TABES DORSALIS (WITHOUT OPTIC ATROPHY).

Case No.	Fields	Vision OD—OS	Courses	1st Treatment	Reg	Age	Reactions	Colorimeter
K7	OK	20/30—20/30	11	1928	+	47	0	10/14 10/14 10/14 10/14
57934	OK	20/30—20/30	15	1925	+	56	3 subjective	10/14 10/14
90320	OK	20/30—20/30	8	1928	+	41	subjective	12/10 5/8 6/8 8/9
100472	OK	20/20—20/20	13	1928	+	46	0	10/5
114605	OK	20/30—20/30	8	1929	+	45	0	8/5 9/11
120202	OK	20/30—20/30	3	1928	+	61	0	8/8 8/8 8/8
123163	OK	20/20—20/20	8	1930	+	48	0	8/8 8/8 8/8
120073	OK	20/20—20/20	5	1930	+	40	0	8/8
123555	OK	20/20—20/20	7	1930	+	57	hysterical field	10/14 10/18
123742	OK	20/20—20/20	8	1930	+	34	0	12/10
136133	OK	20/20—20/20	4	1932	+	42	0	8/8 /8/8 8/8
123163	OK	20/20—20/20	9	1930	+	33	0	8/8
135845	OK	20/20—20/20	3	1931	+	35	0	8/8 8/8
137420	OK	20/20—20/20	1	1932	+	49	0	8/8 8/8
86590	OK	20/20—20/20	18	1924	+	50	0	10/8 8/8 10/10
47745	OK	20/20—20/20	3	1924	0	42	0	11/12
87102	OK	20/20—20/20	9	1926	+	56	0	10/10
28221	OK	20/20—20/20	4	1927	+	36	0	7/7 7/7
28968	OK	20/20—20/20	3	1921	+	47	0	8/8 9/8 8/8
25104	OK	20/20—20/20	1	1930	+	52	0	8/8 10/10

## 4. THE GROUP WITH PARESIS.

Case No.	Fields	Vision OD—OS	Courses	1st Treatment	Reg	Age	Reactions	Colorimeter
815	OK	20/30—20/30	3	1915	+	53	None	8/8 10/12 10/10
128431	OK	20/20—20/20	8	1928	+	39	None	6/8 10/8 10/11 10/8
131013	OK	20/30—20/30	6	1911	+	39	None	9/6 8/10 10/10 10/10 9/10
								9/10 10/10
135845	OK	20/200—20/30	5	1932	+	35	None	15/8 12/8 8/6 10/8 9/10
136044	OK	20/30—20/30	3	1920	+	45	None	5/10
132883	OK	20/50—20/200	2	1931	+	44	None	10/10 8/8 10/8 8/8 10/10
56171	OK	20/20—20/20	8	1921	+	43	None	10/15 10/12
11055	OK	20/20—20/20	2	1925	+	58	None	14/15 12/13
121384	OK	20/30—20/30	7	1915	+	49	None	12/10
120768	OK	20/20—20/20	7	1925	+	37	None	8/8 10/8 9/9
113970	OK	20/20—20/20	8	1929	+	45	None	10/10 10/10
43502	OK	20/20—20/20	5	1922	+	35	None	10/10 8/9

## 5. THE GROUP WITH OPTIC ATROPHY.

Case No.	Fields	Vision OD—OS	Courses	First Treatment	Reg	Age	Reactions	Colorimeter
113840	OK	20/20 20/20	10	1929	+	55	0	27/20 15/15 14/18 24/18 19/16 14/26
122544	Slight Contraction	20/50 20/40	2 (3-lgm doses only) Partial course	1930	+	50	0	19/16
137167	Left-blind Right-Contracted to 10°	— 20/40 0		1931	+	32	0	25/35 16/26 16/30 25/28 19/26 20/25 22/25 19/23 19/22 18/22
139465	No fixation	No light perception either eye	0	1929	—	46	0	25/22
138238	Moderate Contraction	Fingers at 2 ft. either eye	0	1932	—	55	0	20/20 15/20
136844	Rt.: Contracted to 10° Left: Not Obtainable	10/200 P. L.	0	1917	+	39	0	31/21 22/20 15/18 28/22 16/18 18/24 24/19 21/18
77173	OK	20/200 20/100	17	1915	+	49	0	20/20 20/19
100971	Rt.: Normal Left: Not Obtainable	20/30 P. L. (?)	6	1910	+	54	0	12/ 12/ 12/ Left disc not visualized.
114094	Both Contracted to 60°	20/20 20/20	6	1929	+	47	0	15/15 15/15 15/20
52331	Both Contracted to 60°	20/30 20/30	16	1925	+	56	0	15/15 15/20
129491	OK	20/20 20/20	4	1921	+	57	0	10/10
90944	OK	20/30 20/30	5	1923	+	50	0	16/19
33589	O.D.: Central Only O.S.: Normal	O.D.: Faulty L. P. O.S.: 20/20	11	1919	+	56	Definite reaction	14/10 14/10 12/12 12/12 10/10
131156	Both Contracted to 50°	10/200 20/30	2 injections (2 gm. each)	1921	+	44	Subjective reaction	21/22

clinical study. The charts of each of the five groups show the patient's registration number, visual fields, visual acuity, number of tryparsamide courses of treatment, regularity of treatment, age of the patient, reactions, and finally measurements with the fundus colorimeter at various periods during the courses of the treatment. The normal for the fundus colorimeter is considered as between 8 and 12 on the arbitrary scale of the instrument, higher figures meaning atrophy.

*The Group with Optic Atrophy.* All cases in this group were diagnosed optic atrophy before being included in this investigation. All showed optic atrophy either with the ordinary ophthalmoscope, with the fundus colorimeter, by visual fields changes, by loss of visual acuity, or by any two or more of the examinations combined. The longest period any of these fifteen cases had had treatment was 22 years, the shortest 1 year, the average 5 years. The greatest number of tryparsamide courses was 17, the least one, the average number being 6 courses. A course usually consisted of 8 injections of from 2 to 3 grams of the drug. One patient had only subjective reactionary symptoms, while 3 had objective findings. In the latter group two returned entirely to their original state, the third consistently showed contracted visual fields although the degree of limitation was difficult to interpret because of the unreliability of this particular patient. In no case was there a decrease in visual acuity or in the colorimeter readings.

*The Group of Paretics.* The longest period any of these fourteen cases had had treatment was twelve years, the shortest one year, the average four years. The greatest number of tryparsamide courses was 8, the least 1, the average number being 5 courses. Only one case showed ocular reactions of any kind, this consisting of a reduction of the form field for white to 20°, the form field for red to 10°. With a short rest period the fields returned to normal and subsequent treatments showed no reactions.

*The Group with Tabes Dorsalis without Optic Atrophy.* The longest period any of these twenty cases had had treatment was twelve years, the shortest one year, the average four years. The greatest number of tryparsamide courses was 18, the least 1, the average number being 7 courses. One patient had subjective complaints at three

periods during 15 courses. One other patient had one subjective reaction. Another patient had a diminution in the size of the visual field for the left eye which however returned to normal although the colorimeter continued to register this disc outside the normal limits. Visual acuity was changed in none of the cases.

*The Group with Meningo-Vascular Syphilis.* The longest period any of these four cases had had treatment was ten years, the shortest two years, the average five years. The greatest number of tryparsamide courses was 5, the least 1, the average number being 3 courses. No reactions were noted in this group, although the fundus colorimeter recorded slight palor in the right disc of one patient. No case had any decrease in visual acuity.

*The Group with Asymptomatic Neurosyphilis.* The longest period any of these thirty-four cases had had treatment was twenty years, the shortest one year, the average five years. The greatest number of tryparsamide courses was 11, the least 1, the average number being 5 courses. Four patients had subjective symptoms only. None of this group had any objective findings, the visual fields, visual acuity and colorimetric findings all being well within the normal.

*Comment.* We desire to call your attention to several details observed during the treatment of these cases. Subjective symptoms were often noted when the dosage was increased from 2.5 grams to 3.0 grams. These patients were allowed to see their records and were forewarned concerning ocular symptoms. By recording 3.0 grams while giving only 2.5 grams or in some cases a sterile hypo, we were able to definitely establish that complaints of this nature were often psychic. A recent report from England by Lees<sup>18</sup> who treated 613 cases of neurosyphilis is of interest to quote, "We are satisfied from our results that the complications are of minor importance," and "we are satisfied that it (tryparsamide) is superior to any of the other arsenicals in arresting the progress of syphilis of the nervous system." No attempt was made in our study to compare the results with any other form of treatment. In none of the 15 cases of optic atrophy treated was there a decrease in the function of the optic nerve. We were concerned entirely with the effect of the drug on visual ability and no record has been made of the patient's



general reaction. In those cases having subjective symptoms of blurred vision without loss of visual acuity or of flashes of light without demonstrable changes in visual fields or the color of the discs, a reduction in the dosage prevented these disturbances and treatment could be continued. Cases having optic atrophy before beginning tryparsamide treatment under our supervision showed no increase in the degree of atrophy, and we have been impressed by the fact that there exists a certain maximum pallor of the discs which is reached very quickly in the progress of syphilis attacking the optic nerve which shows no tendency to be enhanced under further treatment. Whether this is due to the drug preventing the progress of the atrophy or simply that it is the maximum pallor such as nerve head will attain, we are not prepared to say at present. Where paresis has become advanced subjective tests cannot be depended upon, and it is here that objective evaluation of any color changes in the discs by the ophthalmoscope or the colorimeter are of great importance.

#### CONCLUSIONS

From a preliminary consideration of 87 patients observed under tryparsamide treatment over the period of one year it is our impression:

1. That tryparsamide, intelligently administered, causes no increase in the atrophy of the optic discs, where syphilis has previously caused changes.

2. That tryparsamide causes no optic atrophy in cases where the action of syphilis has not affected the discs.

3. That the use of tryparsamide under proper dosage and supervision should have only beneficial effect on the optic nerve.

4. That close cooperation between the syphilologist and ophthalmologist is essential in the modern treatment of neurosyphilis.

104 South Michigan Avenue.

#### BIBLIOGRAPHY

1. Jacobs, W. A. and Heidelberger, M.: Chemotherapy of trypanosome and spirochete infections. Chemical series I. N-phenyl-glycineamide-p-arsonic acid. *J. Exp. Med.* 30:411, 1919.
2. Lorenz, W. F., Loevenhart, A. S., Bleckwenn, W. J., and Hodges, F. J.: The Therapeutic use of Tryparsamide in Neurosyphilis. *J. A. M. A.* 80:1497, 1502, May 25, 1923.
3. Brown, W. H. and Pearce, L.: Chemotherapy of trypanosome and spirochete infections. Biological Series. I. Toxic action of N-phenyl-glycineamide-p-arsonic acid. II. Therapeutic action of N-phenyl-glycineamide-p-arsonic acid on experi-

mental trypanosomiasis of mice, rats, and guinea pigs. III. Therapeutic action of N-phenyl-glycineamide-p-arsonic acid in experimental trypanosomiasis in rabbits. IV. Action of N-phenyl-glycineamide-p-arsonic acid on spirochete infections. *J. Exp. Med.* 30: 417, 437, 455, 483, 1919.

4. Preliminary report of the Council on Pharmacy and Chemistry. *J. A. M. A.* 80: 1521, 1923.

5. Woods, A. C. and Moore, J. E.: Visual disturbances produced by Tryparsamide. *J. A. M. A.* 82: 2105-2111, June 28, 1924.

6. Moore, J. E., Robinson, H. M., and Lyman, R. S.: The Result of Tryparsamide therapy in syphilis. *J. A. M. A.* 83: 888-891, Sept. 20, 1924.

7. Ebaugh, Franklin G. and Dickson, R. W.: The use of Tryparsamide in cases of general paralysis. Results of the first year's experience. *J. A. M. A.* 83: 803-807, Sept. 13, 1924.

8. Lillie, W. I.: Tryparsamide treatment of syphilis of the central nervous system: Observations from an ophthalmologic standpoint. *J. A. M. A.* 83: 809-913, Sept. 13, 1924.

9. Cady, L. D. and Alvis, B. Y.: The use of Tryparsamide in patients with and without ocular lesions. *J. A. M. A.* 86: 184-186, Jan. 16, 1926.

10. Dancy, A. B.: Ophthalmoscopic examination during treatment with Tryparsamide. *J. Tennessee M. J.* 18: 13-16, May, 1925.

11. Neff, E. E.: Effect of Tryparsamide on optic tract. *Wisconsin M. J.* 24: 120-125, Aug., 1925.

12. Roth, J. H.: Fundus Oculi in Tryparsamide treatment of general paresis of insane. *Illinois M. J.* 48: 220-224, Sept., 1925.

13. Casten, V.: Tryparsamide amblyopia treated by forced drainage of the cerebrospinal fluid. *New England J. Med.* 202: 676-678, April 3, 1930.

14. Kubie, L. S.: Forced Drainage of the Cerebrospinal Fluid. *Arch. Neuro. and Psych.* 19: 997, 1932.

15. Moore, J. E.: The Syphilitic Optic Atrophies. *Medicine* 11: 263 (Sept.), 1932.

16. Cohen, M.: *Trans. Amer. Acad. Ophth.* 1929, page 461.

17. Mayer, L. L.: The Use of the Fundus Colorimeter. To be published.

18. Lees, D.: Observations on the Use of Tryparsamide in the Treatment of Syphilitic Optic Atrophy. *Trans. Ophth. Soc. U. K.* 52: 203, 1932.

#### DISCUSSION

Dr. Louis Bothman, Chicago: I would like to congratulate Dr. Mayer on his paper. It is a very fine report. I should like to ask him about the subjective symptoms of blurred vision, whether this is transitory and part of the general reaction, or whether the subjective symptoms are lasting. There have been reports of blurred vision in treatment of luetic patients with arsenicals which was due to a spasm of the ciliary muscle. This was relieved by atropine after three or four days. I wonder if the subjective reactions he reports may be of the same nature.

Dr. Hallard Beard, Chicago: I should like to ask Dr. Mayer this question, which I consider to be of practical importance. If he has a patient referred from a neurologist or syphilologist with a diagnosis of neurosyphilis, and is asked for an opinion as to whether or not tryparsamide may be safely given, can he by any observation of the optic disc or testing of the fields of vision, say whether this particular patient will tolerate tryparsamide? Must he not wait until some tryparsamide has been given in order to form an opinion as to whether or not the patient will tolerate the drug?

Dr. Leo L. Mayer, Chicago (closing): In answer

to Dr. Bothman's question, this blurred vision these patients complained about was a subjective thing, and had nothing to do with any general complaint. It was purely a factor of their visual apparatus. They complained that when they looked at test objects things seemed blurred. We did test them out to see if it was due to any effect on the ciliary muscles, but none showed that.

To answer Dr. Beard, it is quite natural that in order to find out whether any person is going to show any reaction to a drug, you will have to try the drug, and there is no way in which any one can say whether or not the patient will react to tryparsamide. What I want to bring out is the fact that in a large series of cases the percentage of danger is very meagre and no greater than in the use of some other preparations. No one can tell when a patient will have a reaction from any sort of drug unless he actually tries it.

## RADIOTHERAPY AND SURGERY IN THE TREATMENT OF MALIGNANCY\*

H. D. JUNKIN, M. D.

PARIS, ILLINOIS

During the past two decades the incidence of malignancy has increased rapidly. That this increase is due in part to a more accurate diagnosis and certainly in part to an actual increase in its frequency is quite generally agreed. Certainly, we will admit that malignancy constitutes one of the most, if not the most, serious problem the profession has for consideration.

It is my desire to discuss the subject from the standpoint of the surgeon in rural districts. Scattered throughout rural districts in most of our states are numerous hospital units. Many are located at the county seats. At any rate, these units represent smaller centers for the accommodation of hospital patients in their respective locations, and centers for the study of our problems. Those units are, for the most part, well equipped for handling surgery, obstetrics, and some medical cases. However there are many which are not provided with proper equipment to cope with the problem of malignancy. Personally, I do not feel that a surgeon should accept the responsibility of treating malignancy without the proper means for attacking the disease from its many angles. Radiation, if second at all, is second only to surgery in treating malignancy. Therefore, proper x-ray therapy equipment, access to radium, together with the approved electrical cutting currents appears to

be as essential as an operating room with a generous outlay of surgical instruments.

During the past three years at the Paris Hospital forty-seven per cent. of all cases treated by radiation were for malignancies. All malignant cases have had radiation combined with surgery or radiation alone. Briefly, we treat our malignancies as follows: The epithelomata of the skin are radiated with x-ray, no filter, full erythema doses. Occasionally, these are followed by electro-coagulation. In extensive lip carcinomata we have coagulated freely, then followed with full erythema x-ray doses. Of course, the usual glandular dissections are carried out when indicated.

All malignant breast cases are radiated with x-ray before and after surgery. The electrotome is used for the dissection and the bleeding controlled by the coagulating current. The implantation of radium seeds as described by Soiland of Los Angeles is well worth consideration.

Malignancy of the stomach has been very unsatisfactory. We radiate before and after surgery.

Our colon cases have been very satisfactory. We radiate before and after surgery. I have one case living six years after removal of the transverse colon. The patient was 28 years old. The entire transverse colon was removed and an end to end anastomosis completed at a one stage procedure. Here radiation followed the surgery as the preoperative diagnosis was appendicitis with abscess and operated on as an emergency.

Malignancy of the uterus at once opens a subject which in itself would occupy many hours to even scratch the surface. Suffice to say that in all malignancies above the cervix, we radiate thoroughly with x-ray before and after radical hysterectomy. In malignancies of the cervix we have had much better results with radiation alone. We use the conventional radium pack in the *cervical* canal and implant the needles in the cervical tissues. We always follow with deep x-ray therapy.

In the inoperable malignant case, we radiate and radiate freely. Des Gardines states that if radiation did nothing more than allay the pain of malignancy, this in itself would justify its use. It does much more. The discharges cease, hemorrhage is allayed, and the process is certainly delayed. We have followed the suggestions of the late Willy Meyer of New York in a

\*Read before Section on Radiology, Illinois State Medical Society, at Peoria, May 17, 1933.



few of these cases. Large doses of calcium has been given, thyroid and para-thyroid extract in moderate doses; dilute hydrochloric acid by mouth, and acidulation by inhalations of 5% CO<sub>2</sub> in oxygen. Our experience is too limited to offer an opinion but we are rather inclined to believe that the treatment as outlined by Meyer has some merits.

I wish to give here a few cases which are quite typical of the problem under discussion.

Case 1. Mrs. C. U., 59 years old was operated on by my predecessor, Dr. Roland Hazen, eight years ago, March 26, 1925. The preoperative diagnosis was uterine fibroids. The operative notes follow: "Supravaginal hysterectomy. Both tubes and ovaries removed, but cervix retained. Several growths within fundus, size of grapefruit." Dr. B. G. R. Williams' report on the microscopic study of tissue was adenocarcinoma. She was given radium intravenously. On February 9, 1932, seven years after the hysterectomy, the patient returned to us with a carcinoma of the cervix. On February 10, 1932, one hundred milligrammes (100 Mgs.) of radium element was used in cervix. Four needles of 12.5 Mg. each were placed in the cervical tissue and 50 Mg. in the cervical canal. The latter was screened with 0.8 Mms. of gold and 0.8 Mms. of rubber. As the cervical canal was dilated, pus and degenerating tissue escaped. The cervix bled freely and the tissue was hard and infiltrated. Pack left in situ for 24 hours. Retention catheter in bladder and gauze pack saturated in normal saline in vaginal tube to hold pack in place. Discharged from the hospital on 5th postoperative day. *Subsequent course:* Six weeks after the radium implantation, the patient had a very severe hemorrhage which almost exsanguinated her. She was at her home. She made a slow recovery from this hemorrhage and reported to us a month later and x-ray therapy using 200 K. V. P. filtered through 0.75 M. M. of Cu. and 1.0 M. M. of aluminum started. Four portals were used directing the rays into the pelvis. At the present time, this patient is free of all symptoms, has gained weight up to normal for her and is apparently in excellent health.

Case 2. Mrs. C. S., aged 57 years. Admitted to the Paris Hospital November 18, 1924, on Dr. Roland Hazen's service. The history directed attention to a distress in pelvis for the past year or more with symptoms of pressure on bladder. Vaginal examination revealed a soft mass in pelvis which felt like a cyst with adhesions about it. At operation, a pseudomucinous cystadenoma with areas of beginning adenocarcinoma was found. The mass, left tube, and ovary were removed. Uterus, right tube and ovary were left. An intravenous radium treatment was given November 26, 1924. She remained symptom-free until July, 1930, when she returned to us with a "Frozen pelvis." She was in great pain and had profuse vaginal discharge and hemorrhage. Deep x-ray therapy was given with 200 K. V. P. Technique. The rays filtered through

0.75 M. M. Cu. 1.0 M. M. of aluminum through four portals. She received a series of such treatments again in August, September, November, and December. In 1931: In January, February, April, July and October. All discharge ceased. The mass diminished rapidly in size and the patient was very comfortable. She died suddenly in December, 1931, evidently from a pulmonary embolism. In these two cases intravenous application of radium for malignancy appears to have been of definite benefit. Each illustrates the palliative effects of radiation.

Case 3. Miss E. P., aged 39 years. Never married. Came to the Hospital February 19, 1932. History indicated that she had noticed a tumor in her abdomen for at least four years. At times the tumor appeared to be larger than other times, but the patient is certain the growth has been progressive. She has had backache, some vaginal discharge and some dysuria. Three days before admission she had a chill, severe diarrhea and temperature. She thinks she has had fever for some time but owing to her faith she has had no doctor until now. The examination of the abdomen revealed at once a mass equal to pregnancy at full term. The pelvis was filled with the neoplasm and it infiltrates into the right pelvis. On February 22, 1932, a direct blood transfusion of 500 cc. was given. At operation, we found the growth to be so extensive, together with the involvement of coils of small intestine, extensive infiltration in right pelvis, involvement of the bladder, etc., that surgery was abandoned. On March 11, 1932, deep x-ray therapy was begun. These serial treatments were given each month for six treatments. The mass receded very rapidly. The vaginal discharge was profuse for about three months and then gradually improved. Now, she does the average amount of work about her home, has a good appetite and the mass is about the size of an average grapefruit. We considered this a mixed tumor with malignant degeneration. Radiation aided us here materially in sustaining our position as surgeon in a household quite skeptical of the value of the medical profession as a whole.

Case 4. Mrs. J. O. W., aged 47 years. Admitted to Paris Hospital December 23, 1931. This patient had been flowing freely for six weeks before admission to the Hospital. She had been feeling ill for about a year and had general aching through hips and legs. Bi-manual examination: The uterus was found freely movable. Cervix smooth. Uterus about double in size. Bright red blood flowed from cervix. Diagnostic curettings showed adeno-carcinoma. The patient was given a full series of deep x-ray therapy to pelvis. Hemorrhage continued and on January 1, 1932, a direct blood transfusion of 310 cc. was given. On January 7, 1932, a second direct blood transfusion of 400 cc. was given. On January 11, 1932, a complete supravaginal hysterectomy was done. The patient made a prompt recovery and has had six complete series of x-ray since surgery. She is well and is symptom-free. X-ray films of pelvis show no metastasis to osseous structures.

Case 5. Mrs. B. W. K., aged 53 years. Admitted to Paris Hospital, January 28, 1932. Has had some

vaginal discharge since climacteric eight years ago. A year ago she began noticing an offensive discharge. A watery vaginal discharge began six months ago. For the past three months blood has been mixed with discharge. The examination of the cervix gave a very typical picture of advanced carcinoma of cervix. The general examination and extensive x-ray study showed no metastasis. Pathological report indicated stratified squamous cell carcinoma. On January 29, 1932, 50 Mg. radium was placed in cervical canal and 4 needles of 12.5 Mg. placed in cervical tissue. Screenings on cervical pack, 0.8 M. M. of gold and 0.8 of rubber. The radium was removed 24 hours later. One month later deep therapy to pelvis was begun. She had eight series of deep x-ray therapy. For a three month period patient was very ill. Then the cervical tissues began healing, discharge ceased and today the patient has gained fifty pounds in weight and does all her work on a farm.

These few cases serve to illustrate some quite typical cases we encounter in the surgical field and illustrate quite clearly the important part radiation plays in the treatment of malignancy.

From the standpoint of the general surgeon, it appears to me that a closer co-operation between the surgeon and the radiologist should be sought. The small communities may not be able to support a full time radiologist but certainly a competent member of the profession can be found in these rural centers who could act under the supervision of a recognized radiologist in one of the larger centers. I do not feel that surgery without proper radiological facilities for treating malignancies is justified. In early epithelomata of the skin, radiation alone is sufficient. It is the author's opinion that carcinoma of the cervix as we see it, usually rather late in rural centers, is best treated with radium and x-ray.

#### DISCUSSION

E. G. C. Williams (Danville): The part of Dr. Junkin's paper regarding the necessity and desirability of radiation in conjunction with surgery in the treatment of malignancy is beyond argument. He has given the proper viewpoint. In the evaluation of various methods for the treatment of malignancy, it is difficult to say which one should name first, whether one should say radiation and surgery or surgery and radiation, because each has its definite field and use and they are clinically inseparable.

In the intravenous use of radium, there is nothing to offer except that it just is not being used in the best cancer centers, except possibly in some experimental work.

Dr. Junkin mentioned the late Dr. Meyer's book, which was published a few months previous to his death. I think that book is the most tragic thing ever published. It contains more unfounded conjectures

and more unproven theories are proposed than I have ever seen in print. I think the book is potentially dangerous if nothing else.

The proposition of some competent local physician practicing radiology under the direction of another radiologist reverts back to the idea that the use of radiation in the treatment of disease is a definite medical specialty. It seems to me it is no more possible to do this in a remote section under the direction of a competent radiologist than it would be for a man to practice surgery by mail orders from a competent surgeon.

In the territories where a man cannot specialize in this work, if radiation therapy is to be carried out, somebody must pay the price, and, as Dr. Junkin has done in his own work, take the time and energy to learn the fundamentals of radiation and carry it out himself. If there is no one in the territory who can carry out the radiation, then the best thing is to remove the patient to a place where it can be done. But I certainly couldn't approve of the idea of a remote control radiation therapy. In the few years that I have been associated with it, about sixteen years, I have been firmly convinced that it is a specialty in itself and not a thing to be carried out technically.

In regard to Dr. Junkin's paper and others that have been presented this afternoon, I believe this is one of the finest programs we have had. We have certainly heard some things which will give us a lot to think over until we meet again.

Harold Swanberg (Quincy): Doctor Junkin is to be congratulated on the splendid work and particularly upon his interest in radiation therapy. That surgeons interested in radiology should make a thorough study of the subject has been emphasized by Doctor Crossen in his oration on surgery today. It is most evident that Doctor Junkin has done this.

The question as to the best manner of administering radiation therapy in the average small community is certainly a problem. Upon hearing Doctor Junkin's oration one is greatly impressed by the fact that there is a close union between radiation therapy and surgery in the treatment of cancer and because of this how necessary it is for the average surgeon to increase his knowledge of radiation methods. Cancer patients frequently need both surgery and radiation, and in order that the surgeon may more fully cooperate with the radiologist he must avail himself of the opportunity to learn more about radiation.

We should sound a word of warning about the use of radium in intravenous forms. As Dr. Williams said, it is not used in any recognized cancer clinic. If Dr. Junkin refers to radium itself, in some form of solution, it certainly is highly dangerous. I think the use of radium intravenously for malignancy, is passe.

Gentz Perry (Evanston): I feel that we are all indebted to Dr. Junkin for showing us how much an energetic man can accomplish if he gets up and works. There are two or three things which the doctor has brought out which we should consider carefully. First, I would like to emphasize the warning just sounded



by Dr. Swanberg, whether it be radium, radion, or other radio-active substances, the use of those substances in the general circulation is very questionable. The harm done both experimentally and clinically, I believe, outweighs the good that has been accomplished.

The intravenous use of any radio-active substance for a localized malignancy in any portion of the body is open to very serious question. I wanted to bring this question out before the group. I think we can all agree on a few basic facts, at least, even if we disagree enough to make the meeting interesting. First of all, if we use short wave therapy, x-ray therapy, for its effect upon tissue, I think we will all agree that we can produce a more general effect. We can cover a much wider area of tissue by a fairly homogeneous radiation with x-ray than we can by the ordinary use of radium. If we become multimillionaires we can use a radiant bomb off at a long distance and hit them with several million dollars worth of radium indiscriminately. Perhaps then we may use homogeneous radiation effectively with radium. But until that millenium has arrived we will have to content ourselves with the present economic status of things. I feel that we will all agree upon the matter that we can effect a much larger area successfully with x-ray, high voltage x-ray, two hundred thousand volts or higher, than we may be able to do with radium.

If we use the x-ray to prevent widespread dissemination or try to prevent widespread metastasis, then why should not the x-ray be used among the earliest of our efforts? If we are going to try to prevent metastasis, the sooner we get busy the better. Supposing we feel the case is one that requires surgical treatment, why not use the x-ray in the average case prior to or as nearly as possible coincident with the surgical procedures, and if we are going to use radium, especially if we use it interstitially or where there may be any traumatism of the tissue, why not use the x-ray before we use the interstitial radiation. That is a question which I bring out for your consideration. I certainly enjoyed Dr. Junkin's paper. It started us all thinking.

Benjamin H. Orndoff, Chicago: I am happy to have heard Doctor Junkin's paper and glad for the opportunity to discuss it. Within the last few weeks, it has been my pleasure to attend several meetings where the problems of radiotherapy were discussed. Some of these discussions were of a physical character and the questions of shorter wave x-rays were considered. Some of our more enthusiastic radiologists are endeavoring to advance the information concerning very high voltages and very short wave lengths for x-rays. Others are trying to solve the mystery surrounding the biologic reaction to x-rays of different wave lengths. Still others are including chemical possibilities with radiotherapy, such as intravenous administrations of different forms of chemical products as well as injections directly into the tumor masses. It is hoped that this will accentuate active radiation in the parts desired. Other problems are a more liberal distribution and more universal use of x-rays and radium in med-

ical practice. One of the problems growing out of this demand is to know how to place radium where its application will be of such a character that the results will warrant its use. It must certainly require more than a man with the usual medical qualifications to use radiotherapy effectively. A background of general surgery will qualify a physician to do technical procedures, so the general surgeon will have no difficulty in mastering the mechanical phases of radium application. He must, however, acquire a knowledge of the action of filtered radium in tissue in order that the use of this potent element may aid him in the treatment of malignant disease. There is much to be said about the economic situation surrounding the problems of radiotherapy. Treatments with x-ray and with radium are both expensive to the patient and they should be instituted only in the hands of those who are qualified and trained for this work.

I have known Doctor Junkin and his work in surgery for many years and he is one of the surgeons who has given unsparingly of his time and energy to develop technique in radiology with his surgical practice. I am convinced that he is combining, at the present time, radiotherapy with his work in surgery in a way that is exceedingly useful in the management of malignant disease.

Dr. Junkin (closing the discussion): One can always get a rise out of a radiology group. I brought up the intravenous use of radium simply because I wanted some information. It seemed to me, in reviewing my predecessor's work that he had some very unusual responses to this particular treatment. I did not know whether it had any merit or not. I would like some time to see a careful study of this carried out.

Dr. Geschickter of Johns Hopkins University was at one of our Hospital meetings recently. I talked to him about Dr. Meyer's work. He was of the same opinion as Dr. Williams of Danville. However, as I look over Dr. Meyer's work, I feel he is very bold in some of his statements. Yet, as you follow the literature in the treatment of the inoperable carcinomata, large massive doses of x-ray are recommended. Calcium and parathyroid are mentioned. Acidulation treatment is referred to. All of these Dr. Meyer used. After all, perhaps his approach was not so good because he tried to cover too many of the different angles of the question under one group.

As to the country radiologist, I realize full well it is a problem. It perhaps would be very favorable to the committee of the majority who reported recently on Hospital and Medical costs, that all our patients should be sent to centers where they could have group treatment. Most of us do not agree with this. State Medicine is already on the horizon. Dr. Williams suggests that these cases should be sent to the centers to the radiologist. These country folks will not go to the centers. You cannot drive them in. You can tell them about the men who do these things so perfectly, but try to get them in. I have found that in the operative malignant cases you would tell them they should have x-ray and radium and they would say, "We will think

about it." They don't go in and the next you hear is a post-mortem examination. I do feel that some one should be responsible for giving radiotherapy properly in the country community where you cannot have a radiotherapist. I feel it is quite impractical to send these patients in to the centers because they won't go.

I do feel that the surgeon who assumes the responsibility of treating malignancies should be equally responsible in seeing to it that his patient receives the proper preoperative and postoperative radiotherapy.

## AN ANALYTICAL STUDY OF SQUINT SURGERY\*

M. L. FOLK, M. D., F. A. C. S.

Assistant Professor of Ophthalmology, The University of Illinois College of Medicine; Attending Ophthalmic Surgeon, Michael Reese Hospital

CHICAGO

The original purpose of this paper was to evaluate seven years' work of squint surgery performed by the Department of Ophthalmology of the University of Illinois, College of Medicine, in order to check up on our efforts and determine, if possible, which procedure has served us best in given cases. Such analyses are especially desirable in the field of squint surgery, where the problem is infinitely complex and where the mere existence of so many types of operations speaks for the imperfection of the procedures. As our clinic, however, does not essentially differ from most of the eye clinics in this country or abroad, it was deemed advisable to present the paper before this Section in order to invite discussion from its members, most of whom have had a vast surgical experience; hence, this contribution.

Our series consists of 258 case-records, comprising a total of 329 strabismus operations performed from July, 1925, to July, 1932. Some cases have been followed up for a number of years, others only for a few weeks, the longest case under observation being 7½ years. However, only those observed for at least a period of three months from the time of the operation will be taken into account in this study. A good many of the patients have recently been reexamined by the writer and an attempt was made to interview all cases in which the end results could not be definitely ascertained from the records. For this purpose cards were mailed out requesting the patients to return to the clinic. However, due

to the shifting tendencies of the population which ordinarily frequents the free clinics and, especially during an economic depression, such as the present, most of the patients failed to respond.

Of the 258 cases studied, 118 were males and 140 females. The ages ranged from 2½ to 60 years, but for convenience of discussion the cases are divided into the following groups: 1. Those less than three years, 3 cases; 2. 3-6 years, inclusive, 29 cases; 3. from 6-14 years, or the school age, 171 cases, and 4. those over 14 years, 55 cases. As seen from this table the greatest majority of the patients, namely 52 per cent., were of the school age, when the operation is, necessarily, performed largely for cosmetic purposes. The number of the pre-school age group, where functional improvement could be anticipated, was only 33, or less than 10 per cent. of the total.

The corrected vision in the squinting eye varied greatly and was grouped into the following: 1. Those having a vision of less than 0.1, 63 cases; 2. vision from 0.1 to 0.3, 84 cases; 3. from 0.3 to 0.6, 55; and 4. over 0.6, 43 cases. In 13 patients the vision could not be obtained on account of young age or lack of cooperation.

As regards the type of deviation, there were 224 unilateral and 34 alternating cases. Of the unilateral, 193 were convergent, in which the right eye was involved 96 and the left 97 times. Thirty-one cases were of the divergent variety, the right eye being involved 10 and the left eye 21 times. Of the alternating type, 29 were convergent and 5 divergent. The degree of deviation presented a great variety, and, in order to facilitate tabulation, was divided into the following groups: 1. A deviation of 10°-20°; of these, there were 92 convergent and 4 divergent cases. 2. A deviation of 20°-30°, 71 were convergent and 8 divergent. 3. Those having a deviation of 30°-40°, 47 were convergent and 18 divergent, and 4. A deviation of 40°-55°, 9 were convergent and 6 divergent cases.

As to the treatment previous to operation no accurate figures could be obtained as most of the patients had been to some other clinic, private oculists or optometrists prior to their appearance at our clinic. Our indications for operative procedures were as follows: 1. Children under the age of 7-8 years were treated conservatively for

\*Read before Section on Eye, Ear, Nose & Throat, Illinois State Medical Society, Peoria, May 17, 1933.



6 months to 1 year, and if the eyes were not straightened by glasses and occlusion, operation was urged, thereby hoping to avoid amblyopia exanopsia and obtain single binocular vision. 2. Children over 8-9 years of age who have not responded to conservative treatment, were advised, but not urged, operation. 3. Adults, whether they have or have not had previous treatment, were advised operation after their refractive status had been ascertained.

We shall now enter upon the most important part of our discussion, namely the types of operations performed and the results obtained. The technique of each operative procedure, as practiced in our clinic, will be but briefly described here, referring the reader to the original articles for a more detailed description. The following types of operations, either singly or in various combinations, were used in this series:

1. Tenotomy. This was usually done by the open method and after the manner of the Von Graefe;<sup>1</sup> i. e., after incising the conjunctiva, the muscle was picked up with a strabismus hook, isolated, and severed near its scleral insertion. In a few instances the Arlt<sup>2</sup> method, or the substitution of forceps for the hook in grasping the muscle, and using the strabismus hook only for reexamination and search for any remaining fibers, was practiced. In most cases the tenotomy was complete, including the check ligaments; in a smaller number, simple, or mild tenotomy was performed, in which case the check ligaments were spared.

2. Partial tenotomy. This was practiced according to the method of Todd,<sup>3</sup> which consists of 2 cuts in the tendon of the muscle on one side, and one on the opposite side, each cutting to the center and being about 5 mm. apart. This not only tends to temporarily weaken the muscle but it also lengthens it.

3. Guarded tenotomy; or tenotomy in which the muscle, instead of being left to its fate, is anchored with a silk suture to the conjunctiva or with a catgut suture to the stump of the tendon.

4. Recession was performed after the method of Jameson<sup>4</sup> with the Wilkinson<sup>5</sup> modification, that is, the tendon was sutured to the sclera with a fine central silk suture, the ends of which emerged through the capsule and conjunctiva where they were tied. The stitch was not placed over the end of the cut muscle, as Jameson does.

5. Advancement. A modified Worth<sup>6</sup> operation was used, consisting of passing a double-armed silk suture through the anterior half of the muscle behind the Prince forceps, where it was tied, and the ends of the thread passed through the upper half of the sclera, near the limbus, above and below the previous tendon insertion. They were then passed through the conjunctiva and tied. No shortening of the muscle was performed.

6. The tucking operation was of two types. During the years of 1925-27 the Briggs<sup>7</sup> tucking was used which consisted in looping of the tendon and overlying conjunctiva with an elliptical 2x4 mm. silver wire by means of a special clamp-forceps and tendon hook. This was accomplished through a small opening in the conjunctiva, on one side of the tendon, 2-3 mm. from its insertion, through which the special tendon hook was passed and drew the muscle and overlying conjunctiva to a desired degree. However, as the amount of the tuck was uncertain and as it was quite difficult to remove the clamp, necessitating in a good many cases a second general anesthetic, this operation was soon abandoned for the simpler and more accurate Bishop<sup>8</sup> method. The latter's tucker, in the author's own words, "consists of a double standard, each leg of which terminates in a cross bar to form the support for a flat bar hook which operates between the standards, being raised or lowered by means of a thumbscrew." The technique is as follows: isolation of the muscle by means of a squint hook, insertion of the flat-bar hook underneath the muscle and pulling it up as much as desired. A catgut suture is then passed through the upper and lower one-third of the muscle and tied, and the tucker removed. The conjunctiva is then sutured firmly over the tuck with silk, which also passes through the folded muscle to insure its hold.

7. Resection or shortening according to the method of Lancaster. This consisted of isolation of the muscle, applying of Prince's forceps as far back as desired, and cutting the tendon but leaving a 2-3 mm. stump. Two double-armed silk or catgut sutures are then passed from the stump to the cut muscle behind the forceps and tied firmly, after having pulled the muscle over to the limbus. The excess muscle is then cut away and the conjunctiva sutured.

In small degrees of deviation, one muscle only was operated on according to one of the above described procedures. In higher degrees of squint, operations on both antagonists was usually necessary. The following tables give the number of each operation performed and the results obtained in approximate percentages. It must be remembered, as aforesaid, that only those cases observed for at least three months were taken into consideration. The results were classified as follows: "good," when the eyes were parallel with or without the glasses; "excellent," when in addition to the above, third degree fusion

was obtained; "fair," when the residual convergence was not over  $10^\circ$  with the glasses; "poor," when the residual convergence was over  $10^\circ$ , and "bad," when divergence of over  $10^\circ$  developed.

In regards to the divergent cases, the results were considered "good" when the eyes were approximately parallel; "fair" when the residual divergence was only about  $10^\circ$ , and "poor" when very little correction was obtained by the operation. In this series were also included the secondary divergences, or those which followed over-correction for convergence. The appended table gives the number of cases and the results.

TABLE 1—CONVERGENT SQUINTS

Operation	Total Number	Good	Excellent	Fair	Poor	Bad	Observation Less Than 3 Months
Complete Tenotomy .....	49	11 cases 22.5%		4 cases 8.16%	12 cases 24.5%	8 cases 16.32%	14
Recession .....	7	3 cases 43%		2 cases 28.5%		1 case atrophy bulb	1
Advancement .....	12	3 cases 25%		1 case 8.5%	4 cases 33.3%		4
Bishop Tucking .....	26	7 cases 27%		1 case 4%	8 cases 30%	3 cases 11.65%	7
Tenotomy & Advancement.....	6	1 case 16.66%			2 cases 33.3%	1 case 16.66%	2
Tenotomy & Bishop Tuck.....	83	13 cases 15.70%	4 cases 4.85%	9 cases 10.5%	6 cases 7.25%	17 cases 20.5%	34
Recession & Advancement.....	8	3 cases 37.5%		1 case 12.5%		2 cases 25%	3
Partial Tenotomy & Resection.....	13	7 cases 53.8%	1 case 7.75%	1 case 7.7%	2 cases 15.4%	1 case 7.7%	3
Guarded Tenotomy & Resection.....	4	3 cases 75%	1 case 25%			1 case 25%	
Partial Tenotomy & Tuck.....	3	2 cases 66.6%			1 case 33.3%		

TABLE 2—DIVERGENT SQUINTS

Operation	Number	Good	Fair	Poor
Complete Tenotomy .....	10	2 20%	2 20%	6 60%
Advancement .....	10	3 30%		7 70%
Tucking (Bishop) .....	8	3 37.5%	2 25%	3 37.5%
Tenotomy & Tucking (Bishop)	18	3 16.66%	2 22.2%	11 61.1%
Resection & Tenotomy.....	3	1 33.3%	1 33.3%	1 33.3%
Tenotomy & Advancement....	3	1 33.3%	1 33.3%	1 33.3%
Resection & Partial Tenotomy	3	1 33.3%		2 66.66%

*Comments.* In scrutinizing the above figures, the percentage of good results may seem rather low, but there are a number of factors that may account for it. In the first place, a good many of the cases observed for less than a three month

period were listed in the records as "good" and may, truly, have remained so at the end, but were not counted. In the second place, most of the operations were performed by the junior members of the staff and residents; for we have always considered the training of younger men for staff positions an important function of our department, and no better inducement can be offered them than some surgery, at least extraocular, under supervision. Again, some of the cases were reoperated on, and the final results were much better.

Some operative procedures which have only been performed a few times, such as partial tenotomies alone, resections, recessions and resections have been omitted from our tabulations. It is also to be noted that tenotomies, either complete or simple, have been abandoned by us to a



large extent since the early part of 1931, and that advancements and recessions have not been generally used since 1928, as we have had two cases resulting in endophthalmitis.

Fusion training was, unfortunately, not used at our clinic until recently, therefore no data of any significance are available at present. Attempts at accurate measurement of the amount of advancement or resection to correspond with the degree of deviation have not improved upon our results and were, therefore, not put into general use.

In regards to the anesthesia, most of the patients being of the school age, a general anesthetic was usually necessary, but a local was tried as often as possible. In a number of cases, gas anesthesia was used, the patient allowed to come out of the anesthetic, the condition of the eyes ascertained and, if not sufficiently corrected, the patient was put to sleep again and an operation on the antagonist muscle performed. This procedure seemed to be quite satisfactory.

*Summary and Conclusions.* Our experience and observations, in the author's opinion, justify the following conclusions:

1. Complete tenotomy, mild or "brutal," in convergent cases should be tabooed, as its results are uncertain and it leads, in a good many cases, to divergence. These findings are in keeping with the ideas of most experienced surgeons and writers on the subject, such as Peter,<sup>10</sup> Worth,<sup>6</sup> Wilkinson,<sup>5</sup> et al.

2. Partial tenotomy seems to be a harmless procedure as it cripples the muscle only temporarily, allowing the shortened antagonist to assume control of the position of the eyes. Alone it is of little value, but in combination with a tucking or resection of the antagonist, it offers a good prognosis.

3. Guarded tenotomy, while better than complete, is not as good as partial tenotomy, for the suture does not always hold, the tendon may slip and divergence result.

4. Recessions and classical advancements are not a safe procedure in the hands of the average surgeon, as it is difficult to anchor the muscle to sclera without piercing its entire thickness. The result is that either very little is accomplished, as the sutures pull out from the superficial sclera, or else, the coats of the eyeball are

pierced and endophthalmitis may develop. Two such unfortunate results have occurred in our clinic. Therefore, only those who do extensive squint surgery and have perfected their technique may attempt these types of operations.

5. Tucking by the Briggs method cannot be highly recommended as the amount of folding into the ring is uncertain. Furthermore, as most of the cases operated on are young children, the difficult removal of the clamp often necessitates a second general anesthetic which, of course, is highly objectionable. The Bishop or Birch tucking is a much better surgical procedure and has given us fairly good results. However, the amount of correction accomplished by a tuck is uncertain as the catgut may readily pull through the muscle fibers before the shortening becomes permanent.

6. Resection by the Lancaster<sup>9</sup> method is highly recommended and has given us the best results. The correction is much greater than that of a tuck and the results obtained on the operating table are practically permanent. In small degrees of deviation it alone is sufficient to correct the deformity; in higher degrees it should be combined with a partial tenotomy of the interus and, if necessary, a resection of the externus of the fellow eye. A large number of resections have been performed since this paper was written with equally good results.

7. In general, there should be a tendency to slightly under-correct the convergent cases, leaving the residual convergence to be corrected by glasses and fusion training.

8. In divergent strabismus a complete tenotomy of the externus, either alone or in combination with resection or tucking of the internus, is usually indicated, depending, again, on the amount of deviation. There is no danger of complete tenotomy in these cases, and the tendency should always be to quite overcorrect the condition on the operating table.

9. Operation should be performed early in order to obtain single binocular vision and to eliminate amblyopia ex anopsia, as in older children and in adults the best that one can hope for is a good cosmetic result. Lay people as well as physicians should be informed of these facts and advised to start treatment of squints as early as possible.

10. The claims made by some surgeons that one can gauge his operation in accordance with the degree of squint and duction power of the muscles involved, have not justified themselves in our experience. Some cases with high degree of deviation have responded favorably to a simple operation, while others, apparently similar cases in every respect, gave very poor results and had to be reoperated on. It seems, from our observations, that the last word on the treatment of strabismus has not been spoken yet, and that for the present our work is only approximate. However, as ophthalmology is keeping abreast with the advances in general medicine, we may hope in time to put squint surgery on a more accurate and scientific basis.

11. Finally, our work and the conclusions drawn from it should be regarded in the light of the average ophthalmic surgeon for whom these remarks are principally intended. Those of unusual skill and experience will follow their own choice and will, probably, obtain good results with any procedure.

Before closing, I wish to express my indebtedness to Dr. H. Beard, director of the clinic, for granting me the privilege of utilizing the material for this study. Also, to our nurse, Miss J. Craig, for her assistance in obtaining the records and attending to the correspondence with the patients.

25 E. Washington St.

#### BIBLIOGRAPHY

1. Von Graefe, as quoted by Knapp, Norris and Oliver; *System of Diseases of the Eye*, 1898, Lippincott, Ill., 862.
2. Arlt, quoted by Beard: *Oph. Surgery*, Chicago, 1914, p. 162.
3. Todd, F. C.: *Trans. Sect. Ophth., Amer. Med. Assn.*, 1907, p. 234.
4. Jameson, P. C.: *Arch. of Ophth.*, 1922, Li. No. 5.
5. Wilkinson, O.: *Strabismus, Its Etiology and Treatment*, C. V. Mosby Co., 1927, p. 209.
6. Worth, C.: *Squint*, 1921, p. 216, ed. 5.
7. Briggs: *Trans. Am. Academy of Ophth. & Otol.*, 1908, p. 212.
8. Bishop, W.: *A Tendon Tucker*, *Amer. Jour. of Ophth.*, 1919, Ser. 3, vii, 195.
9. Lancaster, W. B.: *Am. Jour. Ophth.*, v. 14, No. 6, 1931, p. 483.
10. Peter, P. C.: *Extraocular Muscles*, Lea and Febiger, 1927.

#### DISCUSSION

Dr. Hallard Beard, Chicago: There is one thing that stands out in this paper, and that is the fact that such a small proportion of this series of over 300 cases was among children under school age, and such a large proportion in children over 6. It seems that the proportion should be different. We should get them earlier.

I think the fault lies, at least partly, with the general practitioner. I am making that accusation candidly, knowingly, because I have heard so many parents say they were advised to wait until the child was old enough to go to school, that they might outgrow it, overlooking the fact that the amblyopia that results when the child squints cannot be overcome after the eye has reached full development.

The practice in the dispensary at the University of Illinois has been to get the children as early as possible, and measure the amount of strabismus with and without glasses. Then we put them through the most careful routine refraction, using atropine, and if it seems that there is far-sightedness, the relief of which should diminish the amount of convergence, we order glasses and instruct the parents they should be worn constantly for three months and not more than six months before further observation be made. After that time, if the strabismus is not completely corrected, an operation is advised and insisted upon even though the correction is within ten per cent. of parallelism. When the parents refuse operation we have to dismiss the case. In regard to these surgical procedures, I can take issue with Dr. Folk on some minor points. I am in favor of tenotomies rather than recession operations, and I like to practice the so-called mild tenotomy in which one does not expose completely the tendon of insertion of the internal rectus. One tenotomises the muscle without exposing it and in so doing does not sever the ligaments which surround the muscles. The mild tenotomy is not a radical procedure which allows the muscle stump to retract through a period of years. The so-called secondary divergences which follow the "brutal" tenotomy and may occur even five or ten years after the operation do increase from year to year and are worse than the original convergence. Procedures such as recession operations in which sutures are put into the sclera are dangerous. I think that cannot be ignored. Jameson has invented a special needle for this purpose, penetrating the sclera at a point some distance back of the insertion of the internal rectus and suturing it in this position. The sclera is at its thinnest dimension at this point and I think you will find that trying to split one-half millimeter of sclera is a very difficult procedure. If the needle penetrates the entire thickness of the sclera, we are putting a suture through choroidal tissue which is dangerous and has led to loss of the eyeball through intra-ocular infection.

Dr. M. L. Folk, Chicago (closing): I have nothing to add to Dr. Beard's comment, except that in this series mild tenotomies did not bring good results. When cases are turned over to the internes they do not do it too mildly, that is why we prefer partial tenotomies.

About fusion: We have a muscle clinic now where we try to develop fusion. It requires too much time. One man must devote the entire clinic period to this work and is excused from the routine of the clinic. I think fusion training, if started early enough, together with proper refraction and cover treatment, will eliminate a good many strabismus operations, but so far we have not sufficient data on this point.



# CERTAIN WIDESPREAD MISCONCEPTIONS CONCERNING PREVENTABLE DISEASE\*

L. N. JUDAH, M. D.  
URBANA, ILL.

For a number of years biologists, sanitarians and physicians have been deploring the lack of accurate information of the public on matters pertaining to health and preventive medicine. The author has made an attempt to determine somewhat the extent of the deficiency of knowledge of hygiene essential for an individual to protect his own health and that of his family and for him to participate intelligently in movements for civic betterment. To this end, he submitted a questionnaire to a large group of recent high school graduates with rather interesting results.

*High School Students Offer Suggestions as to Treatment.* To the question, "What methods do you know for the treatment of warts?" the most common answer (27 per cent.) was the use of some form of acid. Electricity was advocated by 23 per cent., "burning off" by 10 per cent., surgery by 1 per cent., silver nitrate by 5 per cent., and iodine by 3 per cent.

Approximately 2 per cent. advised rubbing with a potato, a banana skin, hydrogen peroxide, corn cure, urine, salt water, or by the hand of one possessed of magic powers. Other measures recommended were tying a string around the base, biting out the wart, seeing a doctor, and simply leaving it alone.

Extraordinary answers included the following: "I had many seed warts on my hands a few years ago. An old gentleman rubbed them as he mumbled something to himself. In a month or so the warts disappeared." "The best way to cure them is by a careful diet." "Picking out the roots with a knife." "In the early stages the wart may be removed by a physician." Over one-fifth made no attempt to answer the question.

To another question, "What should parents know about diet if children are to have good teeth?" 30 per cent. either gave no answer or merely stated that the parents should know what to feed the child; 29 per cent. suggested a diet rich in minerals, some mentioning calcium, while 8 per cent. believed that eating sweets caused decay of the teeth! 1 per cent. advocated a diet

rich in carbohydrates; 2 per cent. recommended much protein; and one man felt that a high fat diet would be helpful. Of the total, 8 per cent. mentioned the necessity for foods which will exercise the teeth and gums. Only 4 per cent. of the answers included vegetables and only 8 per cent. milk. Just 2 per cent. advised the use of milk or vegetables plus cod liver oil and no one called attention to the value of sunlight. Two students suggested prenatal care. Acid and alkaline foods were both recommended and condemned. The inclusion of all the vitamins in the diet was suggested by 6 per cent. and each one was mentioned at least once.

The most common answer to the question, "What are the causes of constipation?" was that improper diet was the cause, without giving details. This occurred in 66 per cent. of the answers. Over-eating was given in one-fourth and too much or too little exercise in one-fifth of the answers. Lack of habit was mentioned in 13 per cent. The need for vegetables and fruits was advised in six per cent. and roughage in 4 per cent. Psychic causes were suggested in 8 per cent., irregular meals in 24 per cent., and eating too fast in 17 per cent. Some remarkable answers were: "The pancreas is over-worked." "Your kidneys do not throw enough water into your stomach." "Constipation is a condition of the stomach". Very few gave any complete picture of the causes of constipation.

High school graduates, in discussing the cause and prevention of simple goiter showed clearly that they had been reached by advertising. About 11 per cent. gave answers such as the following: "Do not come in contact with people who have a small goiter." "Too much salt causes goiter." "Wearing a tight neckpiece." "External compresses and swabbing may prevent . . . its growth." "Straining of the cords in the throat." "Medicine in the form of pills will correct goiter." "Goiter is caused by a germ found in water and in meat." "Using voice too much." "Drink plenty of water," or "Paint throat with iodine."

One-half (49 per cent.) apparently faced the question with a blank stare. About 40 per cent. mentioned iodine internally, and approximately one-half in the form of iodized salt.

Among the question asked was, "Why do we need inorganic salts (minerals) in our diet?"

\*Read before Section on Public Health & Hygiene, Illinois State Medical Society, Peoria, May 17, 1933.

The word "minerals" was used to insure that the examinee would understand the question, but either the attempt at clarity failed or else this subject has been gravely neglected. Almost one-half (42 per cent.) avoided this question for one more easily answered or gave an answer so far from correct as to make classification impossible. About 46 per cent. stated that minerals aided in building the bones and teeth. Other uses attributed to them were: digestive aids, 6 per cent.; improves the blood in various ways, 13 per cent.; balanced diet, 4 per cent.

Apparently only about one-half of our high school graduates know that inorganic salts are useful for building bone and teeth, and few know any other uses for them.

*On the Control of Communicable Disease.* "Should parents allow their children to have the so-called 'childhood diseases' before puberty? Why?" This question brings out one of our oldest superstitions. Of those answering, 43 per cent. declared that children should be guarded if possible, 33 per cent. felt that it was wise to allow children to contract these diseases, and 24 per cent. were undecided or did not attempt to answer. In addition, one-third (38 per cent.) of the students answering in the negative expressed absurd ideas. Thus, nearly three-fourths (73 per cent.) of our leaders of tomorrow are unprepared to function as responsible citizens, while one-fourth (27 per cent.) have the necessary knowledge to perform properly their duties to their families and to their communities.

Of those answering this question in the affirmative, 51 per cent. gave as the reason that childhood diseases are less dangerous before puberty and 22 per cent. that a permanent immunity is thus received. Answers in the negative included only 46 per cent., who suggested the risk of death or the impairment of the function of some part of the body. Only 1 per cent. mentioned the danger of spreading the disease, while 7 per cent. cleverly evaded the question by stating that it is always best to avoid any disease.

Some very interesting viewpoints developed were: "As far as I know, these childhood diseases are not harmful to the body." "We might catch them when we get older and be kept in out of work," or "There is no way in which these diseases can be stopped."

"Why should we examine all food handlers?

Be specific in your answer." The question seemed to present no great problem because only 2 per cent. failed to answer it. Approximately 82 per cent., however, failed to be specific, simply stating that disease or that germs might be transmitted. Only 10 per cent. advanced the theory that typhoid fever could be spread in this manner. Diphtheria was mentioned by only 1 per cent., tuberculosis and syphilis by 2 per cent.

"How may the community and the individual aid in preventing the spread of typhoid fever?" In reply to this, 56 per cent. mentioned the protection of water supplies; about one-half of these mentioned no other method. Only 40 per cent. advised inoculation, and of these one-third mentioned no other measure of protection. Flies seem to have lost their bad reputation, as only 2 per cent. considered them a source of danger, while four times as many students made the mosquito a typhoid carrier. Clean or unadulterated food was given as a means to prevent this disease by 11 per cent. and 13 per cent. felt that some form of quarantine was desirable. Only 3 per cent. mentioned the danger of carriers and very few high school graduates classified men in this category.

"What can the individual and the community do to prevent the spread of diphtheria?" In answering this question, 44 per cent. showed a knowledge of preventive inoculations, while 62 per cent. advised quarantine. Less than 1 per cent. mentioned the Schick test, proper sewage disposal was recommended by one-fourth, and a pure water supply by one-eighth.

Two questions were asked concerning the role of milk in the transmission of disease.

"Should we drink pasteurized milk exclusively? Why?" In answer to this question, 31 per cent. stated that pasteurized milk contained no bacteria and 25 per cent. that all *disease* germs were killed or that all danger of disease was prevented. Of those examined, 3 per cent. mentioned that disease might come from the cows, but only 1 per cent. considered human carriers. Typhoid or tuberculosis or both were considered by 12 per cent. and 3 per cent. felt that pasteurization would remove dirt. About 1 per cent. opposed pasteurization and an equal number felt that pasteurized milk should be used only by infants and convalescents.

Other striking answers were that "pasteuriza-



tion kills bacteria temporarily," "destroys the good germs," "removes vitamine D," "pasteurization gives milk proper strength," or "removes protein."

The students were also questioned as to the diseases spread by milk. About 15 per cent. knew none, about one-half of the answers mentioned typhoid fever, and an equal number tuberculosis. One-fourth mentioned diphtheria, and one-tenth scarlet fever. Others mentioned included: smallpox, 6 per cent.; chickenpox, 4 per cent.; undulant fever, 3 per cent. The average number of diseases listed was only 1.6 per answer.

The question, "What would you do if bitten by a dog?" was productive of much information, as only 4 per cent. failed to answer it. About one-third (39 per cent.) would examine the dog in some fashion. Of this 39 per cent. only one-sixth would recommend confining the dog for observation and about one-half advised immediate killing of the animal. Of the total number, 16 per cent. suggested treatment for hydrophobia, while 7 per cent. considered tetanus antitoxin to be indicated.

Some answers were most original. For example: "Keep cool and *think*." "You can tell in a minute if it is a mad dog." "Be careful about the diet and about staying away from other people." "Remain quiet." Have and x-ray taken of the wound." "Take something into the stomach . . . to counter-act the disease." "Keep under care of a surgeon until out of danger. Then have the dog shot." Let the owner know about it." "Rabies may be prevented by the careful supervision of dogs during 'dog week.' This period usually comes in a very hot spell late in July and early in August. The very hot days are a great trial for a dog. Communities usually have some provision for these Trial Days."

*New Light on Sanitation.* To ascertain current knowledge of sanitation, the following question was asked, "How may a town of 500,000 people located on a small river safely dispose of its sewage?" Very few of the answers showed any concern for the people downstream. Thirty-eight per cent. made no mention of sewage treatment plants and of the remainder only 12 per cent. gave any information which could possibly be interpreted as being indicative of knowledge

of modern sewage treatment of any type. Suggestions included: "Enlarging the river," "Burying the sewage," "Burning it," "Running it into a field south of town," "Add chlorine to it," or several thought "The river could be piped down to the mouth and out into the lake or sea for a safe distance."

In complying with the request to "list several diseases which may be transmitted by water, one-fifth of the high school graduates made no attempt to answer and only 72 per cent. mentioned typhoid fever. Other diseases mentioned were: diphtheria, 27 per cent per cent; malaria, ten per cent; tuberculosis, 9 per cent; and scarlet fever, 5 per cent. The average number of diseases listed was only 1.4 per answer.

*The Results of Education by Advertising.* As Vitamine C has been well-advertised commercially, students were requested to "list several foods rich in Vitamine C." The answers given were: milk, 25 per cent.; eggs, 15 per cent.; bread and spinach, 8 per cent.; tomatoes and "greens," 7 per cent.; potatoes and cheese, 6 per cent.; oranges, 5 per cent.; and grapefruit, 1 per cent. It is remarkable that neither the radio nor the press seems to have popularized the citrous fruits as a source of vitamine. All types of foods were suggested from candy to yeast. About 46 per cent. made no attempt to answer the question.

The students were also asked, "Of what value is direct sunlight to the human body?" This is another question calling for information which has been industriously exploited by commercial advertisers and by professional men alike. Notwithstanding this fact, 9 per cent. wrote no answer and one-fifth merely gave general answers indicative of a vague knowledge of the subject. Only 12 per cent. associated sunlight with vitamins and 3 per cent. specified vitamine D. Nearly one-fifth said that sunlight contains ultraviolet rays and one-seventh that it is a germicide. Just 7 per cent. stated that sunlight had an effect upon the bones.

*On Seeking Medical Advice.* To the question, "If you moved into a strange town, how would you choose a family physician?", the answers were not such as to encourage a medical student to abandon the pursuit of the social graces for scientific medicine. A large number (36 per cent.) of high school graduates would choose

their physician on recommendation of their neighbors, lodge brethren, fellow luncheon club members, and the like, while only 5 per cent. would consider his training. At least 2 per cent. would call on various physicians, look them over, and endeavor to draw their own conclusions. About 5 per cent. would make cleanliness a factor, and 8 per cent. would consult the board of health of a hospital.

Other factors which were deemed worthy of consideration were youth, extreme age, maturity, moderate fees, sympathy, partnership in a clinic, membership on a hospital staff, type of office, class of patients, honesty, and the bulk of the physician. Interesting reasons given for choosing a physician were: a fairly good reputation, not too snappy and efficient, telephone directory listing, feeling for his patient, intelligent look, the highest in price is usually the best, advertisements of a good newspaper, financial standing, asking a head nurse a banker or a preacher.

*Conclusion.* Sampling of the medical hygienic, and sanitary knowledge of high school graduates sets forth in bold relief the teaching of the allegory given by Chapman and Counts in their great book on the "Principles of Education":

"Greeting his pupils, the master asked, 'What would you learn of me?' and the reply came:

'How shall we care for our bodies?

'How shall we rear our children?

'How shall we work together?

'How shall we live with our fellowmen?

'For what ends shall we live?'

"And the teacher pondered these words, and sorrow was in his heart, for his own learning touched not these things."

#### DISCUSSION

W. W. Bauer, Chicago: Dr. Judah's able and interesting paper exposes in definite terms what is known in a more or less indefinite way to every practicing physician, namely, that the public does not know much about health, and that much of what it does know, is not so. The only excuse for adding anything to the presentation you have just heard is that Dr. Judah sent his questionnaire to recent high school graduates, while I happen to be in a position to supplement his remarks with selections from a wider and entirely unselected field.

The questions sent to *Hygeia* for reply come from all sorts of people in every corner of the United States, and a few from abroad. They numbered roughly 3,500 letters in 1932, posing a little more than 4,200 different questions on 220-odd subjects. I have picked just a

few to show you that Dr. Judah's conclusions will hold good among practically all classes of our lay people.

Before I read these, let me assure you, that like Ripley, I can prove every one of them by the original—believe it or not.

"I inquire . . . whether it is a fact that breathing through the right nostril tends to a dominant, positive and aggressive disposition while breathing through the left nostril makes for a submissive and negative disposition."

And from the same letter, this: "Whether sleeping in a North to South position is preferable to any other. And if the breathing exercises as practiced by the Yogi are 'bunk' or founded on fact and really beneficial."

Here is a comment from a perplexed mother: "I have 2 babies & I do not know the functions and the parts or the organs of a woman, so it is about time I did."

A letter from one who evidently regards himself as intelligent, has this to say: "I was formerly an alderman in this city, but turned the job over to my brother who is decidedly slim . . . My trouble is that my belly is too darn big and I would like to know whether or not the men's corsets that we see advertised are any good . . ."

A gullible fiction reader wishes to know if any of the following "scientific discoveries," which are supposed to put an end to male dominance, are correct:

- (a) female hormone stimulation which will make a woman do as much in one hour as a man can do in three;
- (b) female hormone stimulation which extends the average span of a woman's life to 150 years;
- (c) the operation by which the embryo is removed at three months and bathed in a nutrient fluid to attain a "size and vigor impossible by the old-fashioned method."

Another inquirer writes: "Recently I heard that a tea made of wild peach leaves (boiled) will cause a fine growth of hair if used regularly."

Here is a letter that is hard to answer: "I have perfected a eye water that will remooove cataract in a few days, Improve weak eyes in majority of cases, so there's will be no need of glasses. What would be the best way to get this to the public. Can I put protection on my formula? so other's caannot analize it and sell it."

The marvels of science impress certain persons unduly, as witness this: "Has human blood ever been drained from the veins of the aged completely, and their veins filled with the blood of youth as an experiment to prolong their life? Has his method ever been used as a last resort in the treatment of germ laden blood? Has blood ever been treated externally disease germs destroyed in various ways known to medical science and the purified blood returned again to the veins. Could this be done in an absolute vacuum chamber with surgeons, attendants, etc., wearing oxygen masks? Would it not be a good idea to perform all major operations in such a chamber, so that the germs in the air



could not contaminate exposed vital organs of the patient or the blood? If mercury is deadly to syphilitic germs could not the blood be passed through a vacuum tube containing mercury in an external manner and returned to the veins again a continual flow being prolonged until syphilitic germs in the blood were annihilated . . ." There is more of the same. A little knowledge!

From the sublime to the ridiculous, and here we are: "Please discuss in detail the question as to whether the contour of a head will determine to a marked degree the traits, character, and abilities of the persons concerned."

Here are a few selected at random from a number of letters:

"Will asafetida, tied around your neck, prevent disease?" That's an old friend, and he's far from dead yet!

"Will a buckskin tied around our neck prevent disease?" These two came from a school teacher!

The old superstition about menstruating nurses in operating rooms crops up in the form of a question as to whether fruit canned while the housewife is menstruating, will spoil. "Will aluminum cooking utensils cause cancer?" is asked regularly. An arthritic inquires about the virtue resident in the wearing of copper wires about the wrists and ankles for rheumatism. A correspondent asks about offers to cure rheumatism by adjusting the bones of the feet, which is not as crazy as it sounds, when one remembers that a quack in Canada has made a fat fortune out of this, coupled with stock in a shoe factory. Still another correspondent has heard through a foreign newspaper that in Czecho-Slovakia they are keeping people from growing old by the use of alpha, beta and gamma rays, and she wants to know if there's anything in it.

A physician publishes experiments in restoring bald pates to their pristine splendor, a lay magazine picks up the story, and despite his disclaimers that his experiments are not ready for universal application, the mail is deluged with queries. A magazine article refers to a cod liver oil concentrate, the first on the market, and ten thousand letters are written over a period of five years, wanting to know about it. Many women write about skin foods and developing creams. The public wants to know! Dr. Judah noted the significant fact that they had not apparently absorbed the information offered in advertising of citrus fruits, about vitamins. Readers, like other human beings, believe only what they want to believe.

The well known fact that round worms in children are occasionally known to emerge through the mouth caused one correspondent to inquire if *tapeworms* could "really" be coaxed out that way by holding a tablespoon of warm milk in front of the patient's mouth. This fallacy, like so many others, is based on a germ of truth. The inquiry was sent by a teacher who did not believe the tale, but could not stamp it out of the school in which she taught, so she appealed to *Hygeia* for support.

These are but a few of the outstanding popular fallacies, and I will admit, were selected somewhat

with the lateness of the hour in mind, and the suspicion that a bit of comedy would not come amiss. There are, however, in our files, thousands of letters, not only in the Bureau of Health and Public Instruction, but in the other offices, which show beyond a doubt that the lay public understands little or nothing about health. Upon that lack of understanding is based, in my judgment, much of the misunderstanding of physicians and of medical practice which makes the practice of the healing art so difficult today, and opens the doors to fakers of all kinds, medical and economic, who are ready to offer a gullible, uninformed, misinformed public the pot of gold at the end of the rainbow.

The answer, of course, lies in the grievously abused word, "education." The medical profession must take and hold the lead in educating the people for better health.

---

## Society Proceedings

---

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

*Regular meeting, Wednesday, February 14, 1934.* Programme: The General Trend of Medical Education and Practice. Education, Walter L. Biering, President-elect American Medical Association; Practice, Charles B. Wright, Assoc. Prof. Medicine, Univ. of Minn. Medical School; Discussion, Dean D. Lewis, President American Medical Association.

*Regular meeting, Wednesday, February 28, 1934.* Programme: The Diabetic of the Future and His Problems. Elliott P. Joslin, Clinical Professor of Medicine, Harvard University Medical School; Discussion—Rollin T. Woodyatt, Clinical Professor of Medicine, Rush Medical College.

### OGLE COUNTY

Ogle County Medical Society held its Winter Meeting at Polo, Illinois, January 31, 1934. In an afternoon meeting the Society was honored by Dr. Gilbert Fitz Patrick, Chairman Illinois Cancer Committee. The Public was invited, and the meeting was well attended.

After dinner at the Masonic temple a short business meeting was held and communications from our State Secretary were read.

Approval was voted on the State program and an advisory committee appointed. Dr. W. E. Kittler, Rochelle; Dr. L. M. Griffen, Polo; Dr. J. S. Moffatt, Byron; Dr. A. R. Bogue, Rochelle, Secretary.

A motion passed to approve the action of the President and Secretary in signing up waivers in the closed First National Bank in Rochelle.

Dr. Gilbert Fitz Patrick gave a scientific review of the afternoon lecture.

Dr. W. L. Karcher, Freeport, gave a very interesting talk on the prostate and the trans-urethral operation. A good discussion with questions followed with interesting points impressed.

## Marriages

---

Harold M. Camp to Miss Doris Holt, both of Monmouth, Ill., January 28.

Sheldon Wilson Reagan to Miss Maryan Bryan, both of Elgin, Ill., January 20.

---

## Personals

---

Dr. C. A. Aldrich spoke on "Nephritis in Children" at the February 21 meeting of Will-Grundy County Medical Society.

Dr. Elmer Kenyon addressed the Parent Teacher Association of the Roosevelt School of River Forest, February 20, on "Speech Defects in Children."

Dr. R. K. Packard gave a talk on Medical Economics before the Fulton County Medical Society, February 21.

Dr. Bernard Portis read a paper before the St. Bernard Research Society entitled, "The Surgical Treatment of Duodenal Ileus," February 13, 1934.

Dr. Frederick B. Balmer addressed The Norwegian American Hospital Staff, February 19, on "Medical Economics Essential to the Worthwhile Practice of Medicine."

Dr. Joseph L. Baer addressed Elkhart County Medical Association February 8, on "Normal Obstetrics in General Practice."

Dr. Jean R. Oliver, Professor of Pathology, Long Island College of Medicine, delivered the Tenth Ludvig Hektoen Lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago on Friday evening, February 23, on "The Problem of Architectonics in Terminal Bright's Disease."

Dr. Arthur J. Cramp gave an illustrated lecture February 15 before the members of the Kane County Home Bureau at their annual winter picnic at Geneva.

Dr. Clayton J. Lundy addressed a public meeting at Central Y. M. C. A., February 16, on "Blood Pressure and Health."

Dr. Frank F. Maple gave a talk on "Sterility in the Female" at the February meeting of Will-Grundy County Medical Society.

Dr. Eugene F. Traut addressed the medical

meeting sponsored by the Paris Hospital, Paris, Illinois, February 15, on "Arthritis."

Dr. Bertha VanHoosen addressed the Woman's Club of the Peoples Church, Chicago, February 12.

Dr. Herman L. Kretschmer, Chicago, gave a paper before the Peoria City Medical Society, January 16, on "Modern Treatment of Prostatic Obstruction."

Dr. Robert H. Woodruff was among the speakers before the Sangamon County Medical Society in Springfield, January 4, on "The Doctor and Vital Statistics."

Dr. Thomas B. Knox, Quincy, addressed the Madison County Medical Society, Edwardsville, January 9, on "The Doctor in the Medical Care of the Unemployed."

Dr. Hilmer William Elghammer addressed the Chicago Pediatric Society, February 20, among others, on "Erythrocyte Sedimentation Rate in Rheumatic Infection."

The Chicago Society of Allergy was addressed, February 19, among others, by Dr. Milton B. Cohen, Cleveland, on "The Mechanism of the Asthmatic Attack in Allergic Asthma."

Dr. Max Thorek addressed the Kankakee County Medical Society, February 8, on "The Treatment of Carcinoma of the Rectum by Electrosurgery."

Dr. Eugene J. Chesrow was decorated with the Order of the Crown of Italy, December 21, "in recognition of his benevolent and charitable work among the Italians" of the city.

At a meeting of the Chicago Urological Society, February 21, the speakers included Dr. John Talbot Gernon on "A New Antigen in the Treatment of Gonorrhea."

At a meeting of the Chicago Council of Medical Women, February 2, Drs. Marie Wessels spoke on "A Social Problem of Gynecology and Obstetrics," and Mary G. Schroeder, "The Relation of Insanity to Birth Control."

"The Emotional Difficulties of Unemployed Women" was the subject discussed at a meeting sponsored by the Illinois Society for Mental Hygiene, February 16, by Dr. David B. Rotman, Dr. Douglas G. Campbell and Ruth O. Potter, social worker.

Speakers before the LaSalle County Medical Society in Streator, January 18, were Drs. Carl B. Davis and Frederick H. Falls, Chicago, on



"Anatomy, Symptoms and Treatment of Cervical Rib" and "Premature Detachment of the Normally Implanted Placenta," respectively.

Dr. Scott J. Wilkinson of Decatur, Illinois, addressed the Christian County Medical Society on January 7, at Taylorville, Ill., on "Emergencies in Pediatric Practice."

Dr. Jean R. Oliver, professor of pathology, Long Island College of Medicine, delivered the tenth Ludvig Hektoen Lecture of the Frank Billings Foundation, February 23, on "The Problem of Architectonics in Terminal Bright's Disease."

Major General Robert U. Patterson, surgeon general of the U. S. Army, Washington, D. C., will be the speaker at the annual dinner of the medical chapter, Reserve Officers' Association, at the Army and Navy Club, March 5. Dr. Patterson will discuss the "Reserve Officers' Corps of the U. S. Army."

The Chicago Surgical Society was addressed, February 2, among others, by Drs. Edward Starr Judd, Rochester, Minn., and Dean Lewis, Baltimore, on "Present Status of the Surgical Treatment of Peptic Ulcer" and "Chronic Cystic Mastitis and Its Relation to Ovarian Hormones," respectively.

Speakers before the Chicago Gynecological Society, February 16, were Drs. Henry Schmitz, on "Treatment of the Bleeding Uterus Due to Benign Lesions with Radium and Roentgen Rays"; William C. Danforth, Evanston, Ill., "Treatment of Fibroids; Report of a Series of 443 Cases," and David S. Hillis, "Fibroids in Pregnancy."

At a meeting of the Stephenson County Medical Society in Freeport, February 12, the speakers were Drs. Harold S. Diehl, Minneapolis, and Hugh Cabot, Rochester, Minn., on "The Common Cold" and "An Historical Survey of the Development of Operations for Prostate Obstruction," respectively.

Dr. Albert C. Baxter, Springfield, was recently presented with a silver beaver, emblem of noteworthy service in scouting, by the Abraham Lincoln Council of the Boy Scouts of America. The silver beaver is the highest award in boy scout work and is granted only by the National Council of Boy Scouts of America. Dr. Baxter has been identified with the scout movement since its inception in central Illinois.

## News Notes

—Examples of laymen writing medical articles for the instruction (?) of the public are the "Microbe Burner" by Paul de Kruif in the *Country Gentleman* of November, 1933, and "Forward from Polio" by the same writer in *Ladies Home Journal* of February, 1934.

—Contract has been let for the construction of twenty-one buildings at the Manteno State Hospital at an estimated cost of \$1,161,608. The new buildings will add 1,700 beds to the capacity of the hospital, it was reported.

—The Livingston County Medical Society held a meeting January 25, 1934, at the Phoenix hotel in Pontiac. Speakers of the evening were Drs. A. B. Middleton, of Pontiac, and Mark Jampolis, pediatrician of Chicago.

—The clinical problems of dentistry and medicine will be treated in sessions on medical relations at the annual midwinter meeting of the Chicago Dental Society in the Stevens Hotel, February 27-March 1. Participating in this phase of the program will be:

Dr. Harry A. Singer, Diseases of the Stomach.

Dr. Richard H. Jaffe, Leukemias.

Drs. Lewis J. Pollock and Harry A. Paskind, Neurology.

Dr. Hayes E. Martin, New York, Differential Diagnosis of Benign and Malignant Tumors of the Oral Cavity.

Dr. James Persons Simonds and Carroll W. Stuart, D.D.S., Malignant Tumors of the Head and Neck.

Drs. Harry E. Mock, Frederick W. Merrifield and Edward L. Jenkinson, Traumatic Injuries of the Head and Neck.

Drs. Francis E. Senear, Edward A. Oliver and Joseph E. Schaefer, Dermatology and Diseases of the Head and Mouth.

While these problems will be discussed from the medical aspect, the contingent dental relationship will also be considered.

—There were 171,638 tests made for all diseases in the diagnostic laboratories of the state department of public health in 1933 as compared with 162,325 in 1932. Of these, 25,856 were positive in 1933 and 24,727 in 1932. The num-

ber of specimens examined for tuberculosis totaled 17,395 last year as compared with a previous figure of 15,033, and the proportion of positive tests increased from 15 to 17 per cent. More specimens were examined for diphtheria and typhoid in proportion to cases reported than ever before, but the percentage found positive was lower. Tests of animal heads for rabies went up from 505 in 1932 to 611 last year, and the proportions found positive were 35 and 45 per cent, respectively. Of the 99,352 specimens examined for syphilis, 17,630 were positive, an increase of 2,697 in the number of tests made for this disease.

—Dr. Joseph Colt Bloodgood, clinical professor of surgery, Johns Hopkins University School of Medicine, Baltimore, was the guest speaker at Veterans' Administration Facility, Hines, January 23, at a tumor clinic. His subject was "The Evolution of the Treatment of Cancer as I Have Observed It." Other speakers included:

Dr. Max Cutler, Chicago, Indications and Limitations of Radium in the Treatment of Cancer.

Dr. Paul F. Brown, Hines, Operability and Inoperability of Tumors.

Dr. Linnaeus H. Prince, Hines, Clinical Laboratory and Autopsy Activities, 1933.

Dr. John W. Turner, Hines, Organization of Tumor Clinic.

S. E. Owen, Ph.D., Chicago, Biological Diagnosis of Teratoma.

Dr. Gilbert Fitz-Patrick, Chicago, showed the Canti Cancer Film, and Dr. Thomas Hugh Scott, manager of the facility, introduced the speakers.

—The Merck Institute of Therapeutic Research, Rahway, New Jersey, announces the appointment of Dr. Eugene Maier as Chief Bacteriologist. Dr. Maier is a graduate of the University of Tuebingen, Wuerttemberg, Germany, and completed his studies at the University of Erlangen, Germany. Dr. Maier was associated with the Rockefeller Institute of New York as Research Assistant from 1926 to 1930. Since 1931, up to the time of becoming associated with Merck & Co., Inc., Dr. Maier has been at Bellevue Hospital, New York, in the department of pathology, as bacteriologist for the Tuberculosis Division of Columbia University.

## Deaths

WILLIAM JOSEPH BOWES, Chicago; University of Colorado School of Medicine, Denver, 1919; aged 40; died, February 1, of diabetes mellitus.

H. EUGENE DELAVERGNE, Kankakee, Ill.; Keokuk (Iowa) Medical College, 1896; aged 72; died, Dec. 26, 1933, of coronary disease.

LEROY CLARKE HEDGES, Chicago; Chicago Homeopathic Medical College, 1890; past president of the Colorado State Medical Society and formerly member of the state board of medical examiners; aged 74; died, January 17, of cerebral hemorrhage.

ISAAC KAUFMAN, Chicago; Chicago College of Medicine and Surgery, 1915; aged 51; on the staff of the Woodlawn Hospital, where he died, February 6, following an operation for gallbladder disease.

ZANVILL DAVID KLOPPER, Chicago; Jenner Medical College, Chicago, 1908; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; formerly coroner's physician; on the staff of St. Elizabeth's Hospital; aged 62; died, February 3, of cerebral hemorrhage.

JAMES T. MARLOW, Tamaroa, Ill.; Missouri Medical College, St. Louis, 1886; a Fellow, A. M. A.; aged 74; died, January 12, of coronary embolism.

HENRY EVERETT MONROE, Shelbyville, Ill.; Medical College of Ohio, Cincinnati, 1899; a Fellow A. M. A.; past president of the Shelby County Medical Society; served during the World War; aged 58; on the staff of the Shelby County Memorial Hospital, where he died, January 30, of acute dilatation of the heart.

WALTER SPAULDING MIX, Beardstown, Ill.; University of Illinois College of Medicine, Chicago, 1915; a Fellow, A. M. A.; member of the Colorado State Medical Society; served during the World War; formerly on the staff of the Agnes Memorial Sanatorium, Denver; aged 42; died, January 6, in Virginia, Ill., of pulmonary tuberculosis.

JAMES J. MORONY, Breese, Ill.; Marion-Sims College of Medicine, St. Louis, 1895; a Fellow, A. M. A.; past president of the Clinton County Medical Society; for many years county coroner; aged 68; on the staff of St. Joseph Hospital, where he died, January 4, of arteriosclerosis and secondary anemia.

CHARLES A. C. PARKER, Dongola, Ill.; Marion-Sims College of Medicine, St. Louis, 1892; member of the Illinois State Medical Society; formerly member of the school board and mayor of Dongola; aged 70; died, Nov. 26, 1933.

CHARLES WAKEFORD, Norris City, Ill.; Missouri College, St. Louis, 1897; served during the World War; aged 57; died, January 17, of septicemia and erysipelas.

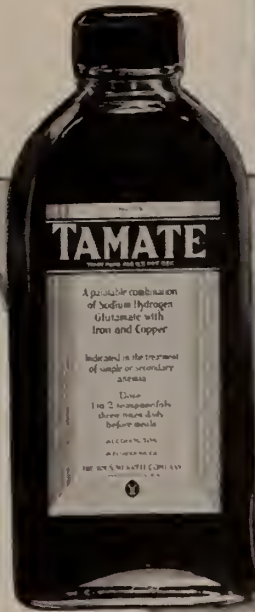
SAMUEL MADISON WATSON, Alton, Ill. (licensed, Illinois, 1888); aged 88; died, Nov. 24, 1933, of hepatic carcinoma.

JOSEPH THEODORE WOODWARD, East Moline, Ill.; Medical College of Indiana, Indianapolis, 1894; served during the World War; on the staff of the East Moline State Hospital; aged 63; died, Dec. 24, 1933, in Peoria, of coronary thrombosis.



## Tamate-Merrell

Represents  
Recent Work on  
Secondary  
Anemia

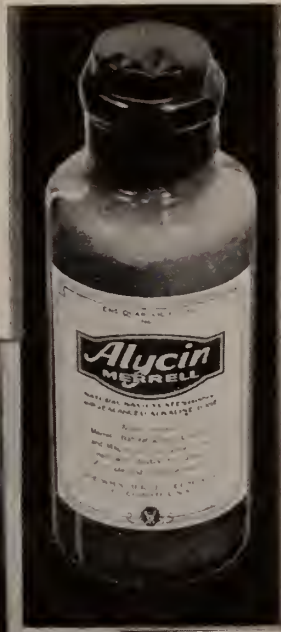


The age-old iron therapy in secondary or nutritional anemia has been brought into line with recent experimental and clinical findings.

First, the addition of copper as a "catalyst" and second, the use of a pyrrologenic compound—glutamic acid—have brought about a revision in the therapy of secondary anemia.

Tamate-Merrell combines these three valuable hematopoietic agents in an effective and readily acceptable form, which has been found to step up the blood picture rapidly.

The very pleasant taste, lack of discoloration of the teeth, freedom from gastric upset, render Tamate-Merrell acceptable to young and old alike.



## Alycin

Allows  
Higher  
Salicylate  
Dosage

"Push Salicylates" is the byword for the treatment of rheumatism, influenza and associated conditions.

Physicians can readily appreciate the value of obtaining salicylates in a form which, when used in amounts large enough to salicylize, does not cause gastric upsets or other unwanted side-effects.

Alycin combines natural sodium salicylate and a balanced alkali—*natural* salicylate to avoid gastric disturbance, and a balanced alkali to overcome the acidosis that invariably accompanies those conditions for which salicylate is used.

For quick, safe salicylization and prompt effect with a minimum of undesirable side-effects, may we suggest Alycin.

# THE WM. S. MERRELL COMPANY

CINCINNATI, U. S. A.

# PAIN

Try PERALGA for pain-relief. It is the safe, botherless way, for Peralga is not narcotic and is taken by mouth. You can entrust it to the patient or to the attendant to use as it becomes necessary. § Quick relief follows the administration of Peralga because barbital prepares the way for amidopyrine, in a *fused* synergistic combination. Headache, migraine, dysmenorrhea, post-operative pain, traumatic pain, earache, toothache, the pain and discomfort of febrile diseases (and the fever, too) yield with impressive promptness to the sedative and analgesic effects of Peralga. It does not cause drowsiness; no respiratory or circulatory depression; no constipation. § Trial supply sent on request. Please use letterhead. § Schering & Glatz, Inc., 113 West 18th Street, New York City.

Supplied in *tablets*: in boxes of 6 and 12, and in bottles of 50, 100, 500.

Also in *powder*. The dose is one or two tablets with water.

FOR THE QUICK RELIEF OF PAIN  
P E R A L G A





# ST. JOSEPH'S HEALTH RESORT

*Located on the  
beautiful Fox River*

**WEDRON • ILLINOIS**

*"The"  
Illinois Baden*

*73 Miles from Chicago*



Thoroughly equipped Health Resort. Every modern convenience. — Hydro-Therapy — Electro-Therapy — Massage — Dietetics. Treatments for Rheumatism, High Blood Pressure — Neuritis — Kidney Troubles — Liver Ailments — Diabetes — Nervousness.

Ideal for convalescents—and vacationists—homelike environments—excellent cuisine—registered nurses—moderate rates—40 acres of ground.

Conducted by Sisters, Mission Workers of the Sacred Heart.

*Write or phone for full  
information*

TELEPHONE: OTTAWA 9129

## CONSULTING STAFF

FREDERICK TICE, Chicago—Medical  
PHILIP H. KREUSCHER, Chicago—Surgical  
FRANCIS J. GERTY, Chicago—Neuropsychiatrist  
JAMES H. HUTTON, Chicago—Endocrinology

## ATTENDING STAFF

GEORGE KLUMPNER, Ottawa—Medical  
JOHN H. EDGECOMB, Ottawa—Surgical  
W. P. FREAD, Ottawa—Eye, Ear, Nose & Throat  
F. L. HOXEY, Ottawa—Dental

# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director; Alberto L. de Guevara, M. D., Asso. Medical Director

Naperville, Illinois

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis. Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

# The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago

**A Gastro-  
Intestinal  
Antiseptic**

where Hexamethylenamine as an agent for liberating formaldehyde is desired without the highly irritating qualities of free formaldehyde.

*Non-Toxic*



*Non-Alcoholic*

# UROLITHIA

This scientifically compounded formula of Methenamine in combination with Lithium and Sodium Benzoate in a standardized fluid of couch grass (*Triticum*) and corn silk (*Zea*) serves as an agent for liberating formaldehyde and avoids the highly irritating qualities of free formaldehyde.

*AS MUCH AS 20 GRAINS of Hexamethylenamine can be administered four or five times a day to patients without toxic effects through the use of Urolithia.*

**COBBE PHARMACEUTICAL CO.**

221 N. Lincoln Street

Chicago, Ill.

COBBE PHARMACEUTICAL CO.  
221 N. Lincoln St., Chicago, Ill.  
Send free Urolithia sample and literature.

Dr. ....  
.....  
.....IM-3-34

## THE AMERICAN COLLEGE OF PHYSICIANS

Eighteenth Annual Clinical Session

CHICAGO, ILL.—APRIL 16-20, 1934

Headquarters—The Palmer House

A POSTGRADUATE WEEK IN INTERNAL MEDICINE AND ASSOCIATED SPECIALTIES, presented by eminent authorities in medicine from the United States and Canada. Mornings will be devoted to hospital visits, clinics and demonstrations in the laboratories and medical schools of Chicago; afternoons and evenings will be devoted to the formal general sessions, which will include about sixty papers and addresses, revealing the trends and covering the best of the recent work in Medicine.

REDUCED RAILROAD FARES—one and one-third the one-way fare for the round trip. A "certificate of identification" must be secured from the Executive Secretary to entitle physicians and dependent members of their families to these reduced rates.

INVITATION to attend is extended to all qualified physicians. Non-members of the College will pay a nominal registration fee.

Address inquiries and requests for programs to the Executive Secretary.

Geo. Morris Piersol, President  
Philadelphia, Pa.

James B. Herrick, General Chairman  
Chicago, Ill.

E. R. Loveland, Executive Secretary  
133-135 S. 36th St., Philadelphia, Pa.



## Cut Out This Page and Post Conspicuously

### BUYERS INDEX

#### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 24

#### FOODS

Biovegetin Products, Inc., 500 N. Dearborn St., Chicago.... 10  
Borden Co., New York City.....  
R. B. Davis Co., Hoboken, N. J.....  
Lister Bros., 41 E. 42nd St., New York City..... 22  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass..... 14  
The Wander Company, 180 N. Michigan Ave., Chicago....

#### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 14

#### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 27  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago ..... 22

#### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill.....  
Armour & Co., Chicago.....  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford..... 8  
Ciba Company, Cedar & Washington Sts., New York City 31  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago.... 20  
Davies Rose & Co., Boston, Mass..... 12  
Denver Chemical Co..... 28  
Emerson Drug Co., Baltimore..... 13  
Gallia Laboratories, 450 7th Ave., New York City.....  
Harrower Laboratory, 160 N. La Salle St., Chicago.....  
Hoffman-La Roche, Inc., Nutley, N. J.....  
Adolphe Hurst & Co., Inc., 330 W. 42nd St., New York City 22  
Hydrosal Co., Cincinnati .....

Hyson, Westcott & Dunning, Charles and Chase Sts., Baltimore ..... 8  
Lilly, Eli & Co., Indianapolis, Ind..... 16  
Merck and Co., Rahway, N. J..... 6  
Wm. S. Merrell Co., Cincinnati..... 17  
Metz Laboratories, Inc., New York.....  
Norwegian Medicinal Cod Liver Oil..... 30  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 22  
Reed & Carnrick, Jersey City, N. J.....  
Schering and Glatz, Inc., New York City..... 18  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit.....  
United Drug Co., Boston and St. Louis.....  
Wm. R. Warner & Co., 113 W. 18th St., New York City.. 15  
Winthrop Chemical Co., 117 Judson St., New York City.. 7  
John Wyeth & Bro., Inc., Philadelphia..... 4

#### SANATORIA AND SANITARIA

Cincinnati Sanitarium, Cincinnati, Ohio..... 27  
Edward Sanatorium, Naperville, Ill..... 19  
Kenilworth Sanitarium, Kenilworth, Ill..... 29  
Michell Farm Sanitarium, Peoria, Ill..... 32  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 29  
North Shore Health Resort, Winnetka, Ill..... 32  
Oconomowoc Health Resort, Oconomowoc, Wis..... 32  
Phoenix Chamber of Commerce, Phoenix, Ariz..... 27  
St. Joseph's Health Resort, Wedron, Ill..... 19  
Tucson Sunshine-Climate Club..... 31  
Waukesha Springs Sanitarium, Waukesha, Wis..... 29  
Wilgus Sanitarium, Rockford, Ill..... 29

#### SCHOOLS

Bancroft School, Haddonfield, N. J..... 22

#### SURGICAL SUPPLIES

Johnson & Johnson, New Brunswick, N. J..... 12

. . . . SAFEGUARD YOUR PATIENT

» *Metaphyllin* «  
(Aminophyllin N.N.R.)

For Angina Pectoris, Coronary Thrombosis, and other painful heart conditions.

COUNCIL ACCEPTED

Byk, Inc.



New York

Obtainable through

ADOLPHE HURST & CO., INC., 330 West 42nd St., New York, N. Y.

# TAUROCOL

*... always a  
DEPENDABLE  
CLOLAGOGUE*

1M 3-34

(TOROCOL) TABLETS



BILE SALTS with cascara sagrada and phenolphthalein . . . laxative, cathartic, increases peristalsis, increases flow of bile, stimulates bile producing cells of the liver.  
VERA PERLES of Sandalwood Compound . . . another Plessner product.

*Samples and complete information sent on request.*

THE PAUL PLESSNER CO. . . . . Detroit, Mich.

## Cook County Graduate School of Medicine

(In affiliation with COOK COUNTY HOSPITAL)

### ANNOUNCES CONTINUOUS COURSES

**MEDICINE**—General and Intensive Courses, all branches. (Two Weeks Intensive Course starting April 23rd. Attendance Limited.)

**PEDIATRICS**—Informal Course—(Four Weeks Intensive Course starting May 7th. Attendance Limited.)

**EAR, NOSE & THROAT**—Informal Course—Special Courses—(Two Weeks Intensive Course starting April 23rd. Attendance Limited.)

**SURGERY**—General Course One, Two, Three and Six Months; Surgical Technique Two Weeks Intensive Course—Special Courses.

**GYNECOLOGY**—Three Months Course—Two Weeks Course—Special Courses.

**OBSTETRICS**—Informal Course—Two Weeks Intensive Course.

**FRACTURES & TRAUMATIC SURGERY**—Informal Course—Intensive Course.

**UROLOGY**—General Course Two Months, Intensive Course Two Weeks—Special Course.

**CYSTOSCOPY**—Intensive Course. Attendance Limited. General, Intensive and Special Courses in Tuberculosis, Ophthalmology, Roentgenology, Pathology, Neurology, Proctology, Electrocardiography, Topographical and Surgical Anatomy, Physical Therapy, Gastroenterology, Allergy.

TEACHING FACULTY, Attending Staff of  
COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street  
Chicago, Illinois

## LISTERS CASEIN PALMNUIT DIETETIC FLOUR

## No Starch

*prescribed in*

→ **Diabetes** ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Listers Flour. Recipes are easy to follow and Listers Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a  
suitable environment

## The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey



**R<sub>x</sub>****MENOCRIN.**

No. C. Sig. 2,  
q.i.d., a.c., for  
ten days before  
menses; omit for  
ten days at onset  
of menses; 1,  
q.i.d. until ten  
days before  
menses; repeat.

# MENOCRIN

—a reliable and economical product for the regulation of the **men**strual and end-**ocrine** control. Menocrin is of service in the various forms of ovarian dysfunction such as amenorrhea, dysmenorrhea, menopausal disorders, and ovarian neurasthenia. Available in boxes of 100 sanitablets or capsules at \$4.00, and in boxes of five 1-cc. ampules at \$2.00. You will find Menocrin a rational, dependable, and really effective therapeutic agent in

## AMENORRHEA

**CHALOMEN** — combining the **ch**alones (inhibiting hormones) of **men**struation, including the recently standardized luteinizing hormone of the antepituitary, is highly effective in controlling excessive ovarian activity. In most cases, it produces results quickly in **MENORRHAGIA**.

### The HARROWER LABORATORY, Inc.

GLENDAL, CALIF.  
920 E. Broadway

NEW YORK, N. Y.  
9 Park Place

CHICAGO, ILL.  
160 N. La Salle St.

DALLAS, TEX.  
833 Allen Bldg.

PORTLAND, ORE.  
316 Pittcock Block

*Manufacturers of ADRENO-SPERMIN*

# ILLINOIS STATE MEDICAL SOCIETY

## OFFICERS OF SECTIONS ILLINOIS STATE MEDICAL SOCIETY, 1933-1934

**SECTION ON MEDICINE**  
R. F. Herndon, Chairman, Springfield  
Don C. Sutton, Secretary, Chicago.

**SECTION ON SURGERY**  
George W. Post, Chairman, Chicago.  
B. V. McClanahan, Secretary, Galesburg.

**SECTION ON EYE, EAR, NOSE AND THROAT**  
Geo. S. Duntley, Chairman, Macomb.  
O. B. Nugent, Secretary, Chicago.

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
J. H. Beard, Chairman, Urbana.  
Lloyd Arnold, Secretary, Chicago.

**SECTION ON RADIOLOGY**  
Robert F. Arens, Chairman, Chicago.  
F. Flynn, Secretary, Decatur.

**SECRETARIES' CONFERENCE**  
H. A. Felts, President, Marion.  
Elizabeth R. Miner, Vice-President, Macomb.  
C. D. Snively, Secretary, Ipava.

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

County	President	Secretary
Adams	R. A. Harris, Quincy	Walter Stevenson, Quincy.
Alexander	R. E. Barrows, Cairo	J. S. Johnson, Cairo.
Bond	W. C. Dixon, Greenville	Wm. T. Easley, Greenville.
Boone	M. L. Hartman, Belvidere	E. F. Dettmann, Belvidere.
Brown	John G. Ash, Mt. Sterling	C. B. Dearborn, Mt. Sterling.
Bureau	R. Herrick, Wyanet	C. R. Bates, Depue.
Calhoun	No Society.	
Carroll	W. J. Scholes, Lanark	H. R. Sword, Milledgeville.
Cass	D. E. Haworth, Beardstown	W. W. Holland, Beardstown.
Champaign	W. M. Honn, Champaign	W. F. Lamkin, Champaign.
Christian	W. S. Miller, Assumption	Perry E. Duncan, Taylorville.
Clark	H. G. Anderson, Westfield	H. C. Houser, Westfield.
Clay	C. Henderson, Clay City	H. D. Fehrenbacher, Flora.
Clinton	H. B. Warren, Breese	W. S. Carter, Trenton.
Coles-Cumberland	J. A. Oliver, Charleston	E. E. Richardson, Mattoon.
Cook	Austin A. Hayden, Chicago	Thomas P. Foley, Chicago.
Crawford	T. N. Rafferty, Robinson	J. W. Long, Robinson.
De Kalb	James C. Ellis, De Kalb	C. E. Smith, De Kalb.
De Witt	Chas. W. Carter, Clinton	Wm. R. Marshall, Clinton.
Douglas	J. O. Cletcher, Tuscola	George H. Fuller, Tuscola.
Du Page	Harry W. Kinne, West Chicago	A. R. Rikli, Naperville.
Edgar	E. O. Laughlin, Paris	George H. Hunt, Paris.
Edwards	H. L. Schaefer, West Salem	A. J. Boston, Albion.
Effingham	F. M. Phillips, Farina	T. F. Reuther, Effingham.
Fayette	A. R. Whitefort, St. Elmo	G. A. Stanberry, Vandalia.
Ford	H. N. Boshell, Melvin	I. D. Kelsheimer, Paxton.
Franklin	J. J. Ellis, W. Frankfort	W. H. Smith, Benton.
Fulton	G. L. Stoehr, London Mills	C. D. Snively, Ipava.
Gallatin	J. A. Womack, Equality	J. C. Murphy, Ridgway.
Greene	E. E. Jouett, Carrollton	W. H. Garrison, White Hall.
Hancock	D. F. Scott, Carthage	W. P. Frazier, Carthage.
Hardin	L. D. Dusch, Golconda	J. L. Paris, Elizabethtown.
Henderson	C. J. Eads, Oquawka	M. J. Babcock, Biggsville.
Henry	R. H. Stewart, Galva	P. J. McDermott, Kewanee.
Iroquois	Myrtle Sweimler, Watseka	W. F. Buckner, Watseka.
Jackson	R. F. Crain, Carbondale	Edward K. Ellis, Murphysboro.
Jasper	W. A. Jack, Newton	G. C. Brown, St. Marie.
Jefferson Hamilton	T. A. Clark, Mt. Vernon	Andy Hall, Mt. Vernon.
Jersey	H. R. Bohannon, Jerseyville	B. M. Brewster, Fieldon.
Jo Daviess	W. S. Lewis, E. Dubuque	R. E. Logan, Galena.
Johnson	Wm. Thompson, Cypress	G. K. Farris, Vienna.
Kane	R. H. Graham, Aurora	K. M. Manougian, Elgin.
Kankakee	G. H. Ayling, Kankakee	J. H. Gamet, Mokena.
Kendall	No Society.	
Knox	C. G. Johnson, Galesburg	L. N. Tate, Galesburg.
Lake	G. Q. Grady, Highland Park	W. L. Winters, Highland Park.
La Salle	E. H. Rayson, Earlville	Roswell T. Pettit, Ottawa.
Lawrence	Wm. R. Mangum, Bridgeport	R. L. Gordon, Lawrenceville.
Lee	W. T. Holladay, Amboy	K. B. Segner, Dixon.
Livingston	E. F. Law, Fairbury	H. L. Parkhill, Pontiac.
Logan	F. M. Hagans, Lincoln	H. Bradburn, Lincoln.
McDonough	Henry Hermett, Macomb	Elizabeth R. Miner, Macomb.
McHenry	J. G. Maxon, Harvard	F. L. Alford, Crystal Lake.
McLean	J. C. McNutt, Bloomington	Ralph P. Pears, Normal.
Macon	D. D. Smith, Decatur	D. A. Pence, Decatur.
Macoupin	A. H. Hunter, Staunton	T. D. Doan, Palmyra.
Madison	N. C. Baumann, Highland	D. D. Monroe, Edwardsville.
Marion	H. E. Schoonover, Salem	H. O. Williams, Centralia.
Mason	W. A. Steele, Havana	W. H. Schuette, Mason City.
Massac	J. H. Gann, Brookport	M. H. Trovillion, Metropolis.
Menard	Irving Newcomer, Petersburg	R. F. Valentine, Tallula.
Mercer	Walter Miles, Viola	V. A. McClanahan, Aledo.
Monroe	E. T. Lark, Columbia	R. G. Empson, Valmeyer.
Montgomery	H. C. Turney, Coffeen	H. F. Bennett, Litchfield.
Morgan	A. L. Adams, Jacksonville	Fred Engelback, Jacksonville.
Moultrie	W. Williamson, Sullivan	W. B. Kilton, Sullivan.
Ogle	R. O. Brown, Mt. Morris	A. R. Bogue, Rochelle.
Peoria City Medical Society	A. P. Kannapel, Peoria	C. W. Margaret, Peoria.



ILLINOIS PERIODIC PHYSICAL EXAMINATION RECORD\*

Case No.....

Name ..... Age..... Height ..... Weight..... usual.....  
 present.....  
 normal.....

Temp. (3 min.)..... Pulse Rate { Seated (before exercise) .....  
 { Standing (before exercise) .....  
 { 60 sec. after exercise (sufficient to increase pulse to 110).....

Bl. Pres.: Sitting { Sys..... Lying { Sys.....  
 { Dias..... { Dias.....

Hearing { R..... Vision { R.....  
 { L..... { L.....

Urine: Color..... Reaction..... Sp. Gr. .... Alb..... Sugar.....  
 Microscopic.....

1. (Standing)

- (1) Posture: erect.....stooped.....Lateral curvature .....
- (2) Superficial glands .....cervical.....axillary .....inguinal..... epitrochlear.....
- (3) Abdomen: flat .....Pendulus .....
- (4) Arms .....defects .....
- (5) Legs .....big veins..... scars.....
- (6) Feet: flat .....painful .....deformed.....
- (7) Skin .....Hands .....
- (8) Nutrition .....Hernial rings .....
- (9) Chest: expir. ....inspir.....Romberg .....

2. (Sitting)

- (1) Scalp .....Patellar reflexes .....
- (2) Eye reflexes .....to light ..... to distance .....
- (3) Nose: conformation.....air passages free .....obstructed .....discharge.....
- (4) Teeth: caries.....devitalized.....crowned .....
- (5) Gums: healthy.....retracted.....inflamed .....
- (6) Tongue: clean.....coated..... moist .....dry .....
- (7) Pharynx: ulcers ..... scars .....tonsils .....
- (8) Ears: conformation .....discharge .....
- (9) Heart: locate apex (measure from mid-line—state interspaces).....character of sounds.....
- (10) Lungs: abnormal findings.....

3. (Lying)

- (1) Abdomen: palpation .....tender..... tumors .....
- (2) Liver: percussion .....tender..... palpable .....
- (3) Spleen: percussion .....tender..... palpable .....
- (4) Kidneys: palpable .....tender .....
- (5) Rectum: inspection .....digital findings .....
- (6) Male Genitalia .....
- (7) Female Genitalia and pelvis.....

4. Summary: defects of function and structure and errors of habit.....

5. Advice given to the patient.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

\*Prepared by the Illinois State Medical Society.

Copies of this physical examination record may be secured from Doctor Harold M. Camp at Monmouth, Illinois, or the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

## HISTORY

(This side to be filled in by the person to be examined)

1. Name ..... Country of birth.....Date of birth.....
2. Address .....Race .....
3. Single, married, widowed, divorced.....
4. Occupation .....
5. How often have you changed your work?.....Why? .....
6. Is your work dangerous or unhealthy?.....
7. Is it indoors or out?.....
8. Is it light where you work?.....Dark?.....Dusty? .....Smelly?.....Noisy?.....Crowded?.....
9. At work are you usually seated, standing, or walking? .....
10. How many hours a day do you work?.....How many days a week?.....
11. Have you a room and bed to yourself?.....With window open?.....
12. What are your hours of sleep?.....Is your sleep restful?.....By what is it disturbed? .....
13. Where do you eat your meals?.....
14. How much time do you take for each meal?.....
15. Of what foods are you especially fond?.....
16. How much do you drink daily of:
 

Water .....	Tea .....	Soft drinks .....
Milk .....	Coffee.....	Alcoholic drinks .....
17. Do you eat candy?.....
18. Do you have a bowel movement daily without the use of drugs?.....What laxative do you use?.....How often? .....Do you have pain or bleeding with bowel movement?.....How often? .....
19. Have your menstrual periods been regular?.....
20. Have they interfered with your usual occupations? .....
21. Have pregnancies and confinements been free from accidents? .....
22. How often do you bathe?.....
23. What regular exercises do you take in addition to your work?.....
24. Do you share in church, social, political, club, or trade associations?.....
25. What are your pleasures or recreations?.....
26. Have you had any of the following diseases and at what ages?
 

Tuberculosis .....	Scarlet fever .....	Tonsilitis .....
Malaria .....	Diphtheria.....	Frequent colds.....
Rheumatism .....	Typhoid fever .....	Syphilis or gonorrhea.....
27. Do you have dyspepsia?.....
28. Do you have headaches?.....
29. Are you short of breath on going up stairs?.....
30. Do you catch cold easily and often?.....
31. Are you subject to sore throats?.....
32. Have you been vaccinated against small pox, typhoid fever, diphtheria?.....When? .....
33. Have you had any accidents, broken bones or surgical operations? .....
34. How often do you consult you dentist?.....
35. Are you as well at present as formerly?.....If not, why?.....
36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....

.....

.....

.....

.....





## The Cincinnati Sanitarium

Established More Than Fifty  
Years Ago

### A PRIVATE HOSPITAL FOR NERVOUS AND MENTAL DISEASES

Secluded but easily accessible. Constant medical supervision. Registered charge nurses. Complete laboratory and hydrotherapy. Dental department. Occupational Therapy. Ample classification facilities.

Charles Kisaly, M. D., Emerson A. North, M. D., Visiting Consultants.  
D. A. Johnston, M. D., Resident  
Medical Director

#### REST COTTAGE

This psychoneurotic unit is a complete and separate hospital, elaborate in furnishings and fixtures.

For terms apply to  
The Cincinnati Sanitarium  
College Hill, Cincinnati, Ohio

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL  
231 West Washington Street, Chicago, Illinois

### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six

X-ray, Basal Metabolism, Electrocardiography  
and Physical Therapy

## A R I Z O N A

84%  
Sunshine

*It's "June-time" all winter  
In this dry, warm "Land of Sunshine"*

*— and the altitude is ideal!*

Having a climate which is unsurpassed, Phoenix and the nearby towns of Mesa, Tempe, Chandler, Wickenburg, Glendale and Buckeye, offer the opportunity to live a healthful outdoor life. Warm sunshine floods this area 84% of all the possible daylight hours; winters are moderate; the clean, dry air is bracing and refreshing; the altitude of 1100 feet is ideal.

Consider Phoenix for your patients who need to recuperate physically and mentally. Consider the well-managed sanatoria and hospitals, competent medical supervision, comfortable living accommodations to meet every budget, fresh fruits and vegetables the year around—which are all to be found here in this friendly Valley of Sunshine.



Send us the schedule of those persons you are sending to Phoenix. We will be glad to meet their train or plane and help them locate in comfortable accommodations to fit their budget.



Reduced round-trip rates  
now in effect on the  
Rock Island-Southern  
Pacific and Santa Fe Lines.



Daily trans-continental  
plane service via Fair  
Weather Route of the  
American Airways, Inc.

### Climatological Data

U. S. Weather Bureau Statistics  
Covering a period of 36 years

Mean Yearly Average

Temperature	69.8°
Rainfall	7.81 inches
Relative Humidity	37.33%
Sunshine	84%
Altitude	1,100 feet

## PHOENIX CHAMBER OF COMMERCE

119 E La Ciudad Del Sol

(The City of the Sun)

Please send me free descriptive literature and  
further information about the climate.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

ALCOHOLISM (30 YRS. EXPERIENCE)  
THE STOKES HOSPITAL—923 Cherokee  
Road, Louisville, Ky. East 1488. \$150.00 up for 4  
weeks' treatment. Absolute privacy. Treatment one

of Gradual Reduction. Do not limit the quantity  
of whiskey used in treatment. Each patient treated  
as an individual case. Craving for whiskey de-  
stroyed, no physical injury incurred.

# Pneumonia—

In the treatment of the pneumonias, an application which will help to sustain the natural defensive and healing powers of the body, promote bodily comfort and encourage symptomatic relief, is an important factor in the treatment.

Antiphlogistine is widely employed in the treatment of the pneumonias. The prolonged moist heat which it supplies and its hyperaemic action on the tissues whereby the blood and lymph circulation are stimulated, help to encourage symptomatic relief with resultant improvement in the clinical picture.

*Sample  
and  
literature  
on request*

It is a valuable adjuvant to the routine treatment and does not conflict with other forms of therapy.

*It is best applied as hot as the  
patient can comfortably bear and  
renewed at the end of 24 hours.*

## ANTIPHLOGISTINE

THE DENVER CHEMICAL MFG. COMPANY

163 Varick Street, New York, N. Y.



## Kenilworth Sanitarium

KENILWORTH, ILLINOIS

Northern Suburb of Chicago

Founded by Sanger Brown, M. D. 1905

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M. D., Assistant Physician  
CHRISTY BROWN, Business Manager  
PETER BASOE, M. D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

For Mild Mental and Nervous Diseases

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

Licensed by the Illinois State Department of Public Welfare.

Member of the Central Neuropsychiatric Hospital Association.

Rockford, Illinois

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director

FLOYD W. APLIN, M. D.

Waukesha, Wisconsin

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

For the Treatment of Nervous and Mental Disorders

DR. FRANK P. NORBURY, Medical Director

DR. ALBERT H. DOLLEA, Superintendent

DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK }

Address  
Communications

THE NORBURY SANATORIUM, Jacksonville, Illinois



## Patients prefer Norwegian Medicinal Cod Liver Oil

because of its great purity and because its taste is much less pronounced than that of similar oils.

The latest scientific investigations made by Professor Poulsson at the Vitamin Institute of Oslo, show that the vitamin D content of Norwegian medicinal cod liver oil is up to a hundred per cent. higher than that from other sources. That is why Norwegian medicinal cod liver oil is the most effective medicine against rickets.

Norwegian medicinal cod liver oil is also very rich in vitamin A, besides containing a substantial amount of iodine.

### **Norwegian Medicinal Cod Liver Oil**

world famous for its high quality.

Printed matter will be sent on application to: Reklamefondet for norsk medicintran, Post box 226, Bergen, Norway.

FABRIIUS, OSLO







## When Seconds Count

an ampule of **CORAMINE "Ciba"**

meets the most exacting requirements. In emergencies you will find its action prompt and effective. In cases where it is to be given over a relatively prolonged period, you will find it just as effective. **Clinical results have shown Coramine, "Ciba", of inestimable value in pneumonia, chronic myocardial involvement, accidents from anesthesia or poisoning by cresol, morphine, barbiturates, or illuminating gas.**

In all forms of dosage Coramine, "Ciba", promptly overcomes depression of the respiration and simultaneously stimulates the circulation.

**LIQUID**

**AMPULES**

Write for literature and samples

**CIBA COMPANY, Inc.**  
NEW YORK, N. Y.



	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
TEMPERATURE Mean monthly	49.7	52.2	57.5	64.3	71.4	77.4	82.7	89.7	79.2	68.1	57.5	49.8	
40-year average													
RAINFALL (in inches)	8	9.6	8.1	3.2	1.4	2.3	2.4	2.6	1.0	6	7.6	10.9	(15.1)
40-year average													
HUMIDITY Monthly	A.M. 61	55.6	44.8	40.4	28.4	29.3	54.3	57.3	47.1	46.8	57.1	74.2	49.5
40-year average	P.M. 35.3	27.7	22.4	22.6	15.9	17.7	36.7	35.7	29.0	26.5	41.1	48.1	29.9

## Sunny 336 Days a Year!

*Tucson provides the ideal setting for convalescents*

OF course Old Mother Nature can't do everything to promote recovery. That is why Tucson is equipped with many of the finest modern sanatoria in the West.

But it is undoubtedly Tucson's *climate* that accounts for most of the benefit. The Weather Bureau says, "Southern Arizona is the only spot in the United States with more than 80% of the possible

amount of sunshine". Here in Tucson there's warm, dry sunshine 336 days a year. Rainfall and wind are very slight—snow and fog almost unknown!

On receipt of the coupon below, we will send you a free booklet telling about Tucson's hotels, housing, schools, State University and sanatoria. Special information supplied immediately upon request.

**TUCSON**  
Sunshine-Climate Club

1306-H Old Pueblo Building, Tucson, Arizona

PLEASE SEND ME YOUR FREE LITERATURE FOR PHYSICIANS

Name \_\_\_\_\_ Address \_\_\_\_\_

# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN

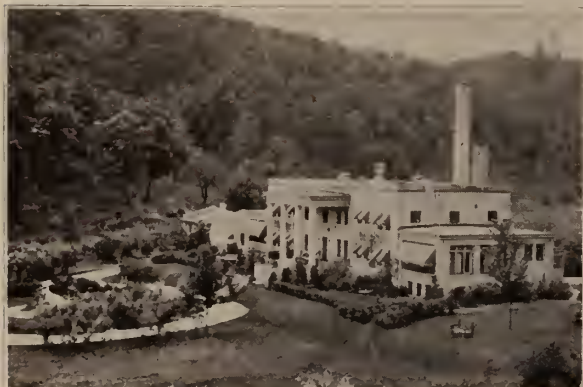


Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

Fireproof building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

ARTHUR W. ROGERS, M.D., Physician in Charge  
JAMES C. HASSALL, M.D., Medical Supt. OWEN C. CLARK, M.D., Asst. Physician

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



Dr. George W. Michell, Superintendent  
Dr. Helen Coyle, Medical Director  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan  
WINNETKA, ILLINOIS  
16 Miles North of Chicago

Thoroughly Equipped Sanitarium

Hydrotherapy - Electrotherapy - Massage - Dietetics

Occupational Therapy Department

Special facilities are offered for the care and  
treatment of nervous and chronic diseases.

*Ideal for Convalescents*

Write for Booklet or Phone WINNETKA 211  
Wm. R. Whitaker Manager Wm. G. Stearns, M.D. Medical Director



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

Vol. LXV, NO. 4

OAK PARK, ILL., APRIL, 1934

\$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for Titles) ..... 281

### ORIGINAL ARTICLES

Peridural Anesthesia in Abdominal Surgery.  
*John R. Harger, M. D., Chicago*..... 317  
Ocular Signs and Findings in Exophthalmic Goiter.  
*Elias Selinger, M. D., Chicago*..... 319  
Diagnosis and Treatment of Acute Appendicitis.  
*E. S. Murphy, M. D., Dixon, Ill.*..... 325  
Stuttering, Its Nature and Mechanism. *Meyer Solomon, M. D., Chicago*..... 329  
Multiple Myeloma. *George B. Stericker, M. D., Springfield, Ill.*..... 335  
Traumatic Cataract: Its Medico-Legal Aspect.  
*Joseph Shanks, M. D., Chicago*..... 338

Irritable Colon. *H. P. Miller, M. D., Rock Island, Ill.*..... 340  
New Type of Retention Catheter. *J. Major Greene, M. D., and Earle I. Greene, M. D., Chicago*..... 344  
Progressive Medicine. *R. W. Binney, M. D., Granite City, Ill.*..... 345  
The Young Physician. *W. A. Newman Dorland, M. D., Chicago*..... 348  
A Factor in the Common Cold. *Arthur E. Ewens, M. D., Atlantic City, N. J.*..... 352  
Primary Actinomycosis of the Parotid Gland. *John T. Hart, M. D., and Cleveland White, M. D., Chicago*..... 355  
Cases of Induced Insanity. *C. H. Anderson, M. D., Moline, Ill.*..... 357

(Continued on Page 8)

Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918

## MILWAUKEE SANITARIUM, Wauwatosa, Wis.

### For NERVOUS DISORDERS

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

MAINTAINING the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

**RESIDENT STAFF**  
ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.  
MERLE Q. HOWARD, M.D.  
CARROLL W. OSGOOD

**ATTENDING STAFF**  
H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

COLONIAL HALL  
One of the 14 Units in "Cottage Plan."



# SQUIBB ANNOUNCES

## TWO NEW PRODUCTS OF OUTSTANDING MERIT



### Tablets Calcium Phosphate Compound With Viosterol 10 D Squibb

Recently published papers emphasize again the marked calcium deficiency existing in a great number of patients. Proper calcium therapy requires the administration of calcium, phosphorus and Vitamin D in proper combination.

These tablets supply calcium and phosphorus in approximately optimum ratio and ample Vitamin D to facilitate their absorption and utilization. Each tablet contains 9 grains Dicalcium Phosphate, 6 grains Calcium Gluconate and 245 Steenbock units of Vitamin D in the form of Viosterol. The ratio of calcium to phosphorus is as 1.625 to 1.

They are indicated for those conditions which may be benefitted by calcium administration. Marketed in bottles of 50 tablets.



### Prolactin Squibb

A highly purified, aqueous solution of the lactation-stimulating hormone of the anterior pituitary gland. It is prepared according to the method developed by Dr. O. E. Riddle of the Carnegie Institute at Cold Spring Harbor.

Physiologically assayed. Clinical tests show it to be effective in stimulating milk secretion in women whose milk is inadequate.

With two injections, intramuscularly, 24 hours apart, clinical effect usually begins within 24 hours and in the majority of cases induces lactation up to approximately the normal level. No progressive effect with higher dosages.

Has no other endocrine effect. No possibility of upset in the child because Prolactin is free from other hormones of the anterior lobe. Marketed in 5-cc. vials containing 40 bird units per cc.

*For further information, write Professional Service Department, 745 Fifth Avenue, N. Y.*



**E. R. SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858





## Powerfully antiseptic as a Wet Dressing

**H**EXYLRESORCINOL Solution S. T. 37 is especially indicated as a wet dressing. It is germicidal, non-irritating, and soothing—retains its germicidal activity when applied to infected tissue surfaces. It affords rapid penetration of microscopic crevices.

For the treatment of cuts, abrasions, burns, scalds and other open wounds, we suggest wet dressings kept saturated with full-strength Hexylresorcinol Solution S. T. 37.

For abscesses, carbuncles and similar infections, following drainage, we suggest that

the cavities be packed with gauze kept saturated with full-strength solution.

The germicidal action of Hexylresorcinol Solution S. T. 37 is rapid—it destroys bacteria on less than 15 seconds' contact. It will not stain and is odorless. Supplied in 5-ounce and 12-ounce bottles.

### Sharp & Dohme

PHARMACEUTICALS

BIOLOGICALS

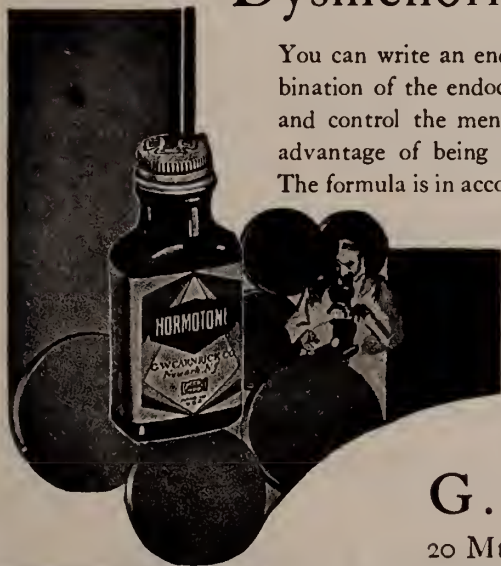
Philadelphia Baltimore Montreal

## HEXYLRESORCINOL SOLUTION S. T. 37

(Liquor Hexylresorcinolis 1:1000, S & D)

## An Endocrine Prescription in Dysmenorrhea and Amenorrhea

You can write an endocrine prescription in one word—a proper combination of the endocrine principles which are now known to initiate and control the menstrual process. Your prescription will have the advantage of being filled with fresh potent endocrine constituents. The formula is in accord with the most recent research on the endocrine glands concerned in regulating menstruation.

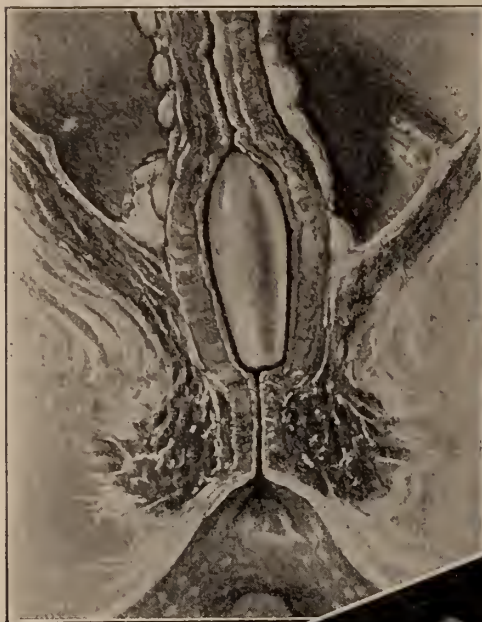


## HORMOTONE

BOTTLES OF 50 AND 100 TABLETS

### G. W. Carnrick Co.

20 Mt. Pleasant Ave. • Newark, N. J.



# ANATOMICALLY CORRECT



## WYANOIDS

(Wyeth's Hemorrhoidal Suppositories)

The torpedo shape allows the insertion of the pointed end first. As the widest diameter passes the sphincter muscle, the Wyanoid spontaneously moves inward where it is retained, melted and the therapeutic ingredients liberated.

Wyanoids quickly allay pain, reduce inflammation, restrict bleeding.



**JOHN WYETH & BROTHER, Inc.**

PHILADELPHIA, PA. and WALKERVILLE, ONT.



One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in the *Saturday Evening Post* and other leading magazines.



## The letter that took him months to write

DEAR DOCTOR:

I have just had a very unusual experience. I actually *enjoyed* paying a bill.

It is your bill. And as bills go, it has begun to take on a shabby, neglected look.

Like most people, I have had extremely tough sledding for the past few years. I had to pay my grocery bills, or get no more groceries. I had to pay the light bills, or they'd shut off the electricity. I had to pay the coal man or face an empty coal bin.

But I didn't have to pay yours—and so I put it off.

I imagine my case is not unique. For you doctors belong to a pro-

fession in which service to humanity comes before everything else. You made this evident in our case. When my wife was sick, your first thought was how to bring her back to health quickly. You stood by us through everything . . . giving without knowing when you would receive.

Now things are a little better with me. When they started to get better, both my wife and I agreed that one of the very first things we'd do, would be to pay your bill. Here is the check. And please believe me when I say that it was a genuine pleasure to write it.

With it goes my heartfelt gratitude for all you have done for us,

and for the sporting way you carried us when bills were the bane of a harried existence.

Sincerely Yours,

H\_\_\_\_\_G\_\_\_\_\_

Many a doctor's bill has been gathering dust these past few years. Today, with the brightening economic skies, surely among the first obligations to be met are unpaid bills for medical services.

PARKE, DAVIS & COMPANY  
DETROIT, MICHIGAN

*The World's Largest Makers of  
Pharmaceutical and Biological Products*

## Book Reviews

**SURGICAL CLINICS OF NORTH AMERICA:** (Issued serially, one number every other month.) Volume 14, No. 1. (Philadelphia Number—February, 1934), 226 pages with 62 illustrations. Per Clinic Year (February, 1934, to December, 1934.) Paper, \$12.00; Cloth, \$16.00, net. Philadelphia and London: W. B. Saunders Company, 1934.

The contributors to this number are Doctors Babcock, Burnett, Clerf, Coombs, Eliason, Fetter, Grant, Jackson, Klopp, Manges, McLaughlin Jr., Nassau, Owen, Pratt, Ravdin, Ryan, Scheffey, Shallow, Walkling.

**ALLEGORY IN GENERAL PRACTICE.** By Samuel M. Feinberg, M. D. Illustrated with 23 engravings and a colored plate. Philadelphia: Lea & Febinger, 1934. Price, \$4.50.

Physicians in general practice have had little opportunity of keeping informed in regard to the developments in the field of allergy, and yet are daily required to pass judgment on matters of importance to patients showing allergic manifestations. The author of this work has had abundant opportunity in the hay fever clinic at a great university as well as in private practice, his activities has given him a world of information which justifies his preparation of this volume which is the latest up-to-date work on the subject of allergy.

**THE A-B-C OF REFRACTION.** By F. D. Dwaltz, M. D., Detroit. Copyright 1933 by F. D. B. Waltz.

The purpose of this book is to give to the general practitioner concise and practical information regarding the correct fittings of glasses which will be of greater value to him in his practice.

**THE BASIS OF PASSIONAL PSYCHOLOGY.** By Dr. Jacobus X\*\*\*, New York. American Anthropological Society. Privately re-issued. 75th Avenue, New York. Price, \$4.00.

This treatise, dealing with the basic laws underlying physical love in the animal world, is an important contribution to the field of sexual anthropologia. Dr. Jacobus X. is the pseudonym of a famous French anthropologist and army surgeon who collected his material while on duty in various parts of the civilized and uncivilized world.

Starting with the infusoria, the author carries his studies of animal accouplement through the reptiles, fish, birds and mammals, including the behavior of man. Apart from the vast fund of unusual facts on sexual behavior which the volume contains, the study of the almost human behavior of the animal world when reacting to the stimulus of physical love makes the work especially interesting to the members of the medical profession.

The American Anthropological Society is to be thanked for making this important study of the sexual behavior of animals and man available to the learned and scientific professions.

**MEDICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume 17, Number 1. (Cleveland Clinic Number—January, 1934). Octavo of 253 pages with 53 illustrations. Per Clinic Year July, 1933, to May, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

The contributors to this number are Doctors Collins, Ernstene, Haden, Hartsock, John, McCullagh, McDonald, Netherton, Nichols, Ruedemann, Shiflett, Tucker.

**CIRCUMCISION IN MAN AND WOMAN.** By FELIX BRYK. Translated by David Berger, M. A. New York. American Ethnological Press. 1934. Price ..

This work covers the history, psychology and ethnology of circumcision. The subject matter is divided into several classifications namely, categories circumcision; source material; suggested explanations; customs and geographic distribution; circumcision in girls; circumcision in art; bibliography. Each heading is divided into many subdivisions. The work is a translation from the German, is limited to 1500 copies; sold only to physicians, members of the clergy and adult students of the social sciences.

## PSYCHOLOGICAL ASPECTS OF SPEECH DIFFICULTIES

Frances A. Perlowski in a radio talk reproduced in *Mental Health Bulletin* comments on speech difficulties. We quote:

Harold is an overgrown fat boy of eleven who was brought to the speech clinic because of stammering. In school he is regarded as a dull boy inclined to loaf. The boys tease him about his poor grades. They call him "sissy" on the athletic field. He is timid and has marked feelings of inferiority. His father and mother are college graduates and they intend to have their boy go to college. He is in a private school, doing very poorly in his studies for which he is constantly being criticized in school and at home. His father is harsh in his criticism and frequently punishes him. His mother tries to make up in kindness for his father's severity.

A psychological test showed that Harold has high average intelligence but not sufficiently high to enable him to finish a college course. He has just about enough mental capacity to get through high school. At the present time he is a grade higher than he should be for his mental capacity. He has a well developed mechanical interest which should be encouraged. Physically he is growing at a rapid pace so that he appears to be older and both his parents and teachers expect him to act older.

It is easy to understand the reason why Harold stammers, when we regard stammering as a symptom of failure to adjust emotionally to social situations. Since speech is the chief way by which we adjust ourselves to other people it is not surprising, then, that we show unhappiness and maladjustment in our speech. Emotions even of a slight character will often interfere with the delicate coordinations necessary to speech, and in Harold's case he is expected to live up to the standards

(Continued on Page 30)



# "Be sure the patient gets ARMOUR'S Concentrated Liver Extract"

"BE SURE the patient gets ARMOUR'S Concentrated Liver Extract. She needs very careful treatment."

Armour's Concentrated Liver Extract has proved so conspicuously effective in the treatment of pernicious anemia because of its constant, dependable potency. This is achieved through exclusive Armour methods of processing fresh raw material before the animal heat has left it, and is true of *all* Armour products. In thirty-five years not one preparation of the Armour laboratories has been found wanting in potency. You can prescribe by name—*Armour*—with complete confidence.

*When prescribing Pituitary preparations, Suprarenalin Solution, and Thyroid preparations, always specify ARMOUR'S.*



**ARMOUR LABORATORIES**  
CHICAGO, U. S. A.

HEADQUARTERS FOR MEDICAL SUPPLIES OF ANIMAL ORIGIN

# PATIENTS BATHE WITH IMPUNITY

• Drybak, the waterproof adhesive plaster, brings a new freedom to patients who must wear strappings or dressings. They can bathe without danger of water loosening the adhesive backcloth. Drybak is sun-tan in color. It stays clean. The edges will not turn up.

## DRYBAK

THE WATERPROOF  
ADHESIVE PLASTER

Costs no more than regular adhesive

*Johnson & Johnson*  
NEW BRUNSWICK, N. J. CHICAGO, ILL.

PROFESSIONAL SERVICE DEPT.



### CONTENTS—Continued

Organic Esophageal Stenosis. M. A. Glatt, M. D., Chicago	358
Gonorrheal Infections Treated with Neo-Vonargen Intravenously. Joseph E. F. Laibe, M. D., Chicago	363
Vioosterol in Pregnancy: 300 Cases. Garwood C. Richardson, M. D., Chicago	367
Postoperative Diathermy in Prostatectomy. C. Otis Ritch, M. D., Chicago	370

### EDITORIALS

Red Medicine, or Red, White and Blue?	281
Left Handed Person	286
State Council Approves	287
Medical Economics	288
Eighty-fourth Annual meeting	289
Suggestions on Bibliography	289
Reprehensible Medical English	290
Veterans' Dinner	290
Make Hotel Reservations Early	291
Illinois State Medical Society—Preliminary Program	292
Exhibitors at Annual Meeting	306
Notes on Exhibits	306

### CORRESPONDENCE

How to Kill a Medical Society	309
Macon County Society Re Hospital Insurance	309
Committee Report on Emergency Relief	310
Educational Committee—March, 1934	312
U. of I. Alumni Meetings	313
Chemical Medicine Changes Hands	313
Illinois Tuberculosis Ass'n	313
American Goiter Ass'n	314
Woman's Auxiliary	314

### SOCIETY PROCEEDINGS

Cook County Chicago Medical Society	373
Randolph County	373
Marriages	374
Personals	374
News Notes	375
Deaths	376

## SEVEN YEAR'S USE

has demonstrated the  
value of

The Surgical Solution

of

MERCUROCHROME, H. W. & D.

in

Preoperative Skin Disinfection

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

Literature on request

Hynson, Westcott & Dunning, Inc.  
BALTIMORE, MARYLAND



# for sick as well as normal babies

## Dextri-Maltose, Carbohydrate of Choice

In gastrointestinal disorders, "Dextri-maltose has been preferred to the other sugars as apparently less irritating."—E. Cassie and U. Cox: *The examination of the gastric contents in infants, with some considerations as to the value of lactic acid milk in infant feeding*, *Lancet*, 2:322-325, August 14, 1926.

"As to the kind of extra carbohydrate to be added, whether lactose or maltose, I believe dextri-maltose to be better in general in cases of fat indigestion infantile atrophy."—C. H. Dunn: *The Hygienic and Medical Treatment of Children*, Southworth Co., Troy, New York, 1917, V. 1, p. 418.

In the treatment of decomposition, "The period of repair may be shortened by giving suitable additional food; the best, probably, being buttermilk to which carefully regulated proportions of dextrin and maltose preparations or malt soup are added."—E. Feer: *Text-Book of Pediatrics*, J. B. Lippincott Co., Phila., 1922, p. 284.

In infantile atrophy, "The carbohydrate should be increased by gradual addition of dextrimaltose.

"Malt soup or dextrimaltose (Mead's) should be added in teaspoonful or more doses to each feeding until the point of carbohydrate tolerance is reached."—L. Fischer: *Diseases of Infancy and Childhood*, F. A. Davis Co., Phila., 1925, V. 1, p. 235.

In the case of a premature infant, "Dried milk with water was given, which later was changed to whole milk, 14 ounces; water, seven ounces, and dextri-maltose No. 1, one and one-half ounces. Seven feedings of three ounces each every three hours was given. The above feeding was retained. The infant gained eight ounces at the end of the first week."—L. Fischer: *Clinical notes in a series of premature infants*, *Arch. Pediat.* 44:227-231, April, 1927.

In the treatment of decomposition, "As a rule it is best to start with 2 to 2½ or 3 ounces of albumin milk to the pound weight in 24 hours; the sugar to be added is in the form of a maltose-dextrin mixture. One should never delay too long in adding this."—C. G. Grulee: *Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 265.

With reference to hypotrophy, "In mild cases, the addition of dextrimaltose instead of cane or milk sugar may be sufficient to obtain a gain in weight."—C. Herrman: *The treatment of nutritional disorders in artificially-fed infants*, *New York M. J.* 114:158-160, August, 1921.

In athrepsia, "The carbohydrates are usually added in a slowly fermentable form, such as the maltose and dextrin compounds, which are usually started by the addition of four grams per kilogram (1/15 ounce per pound) and increased until eight grams or more per kilogram (¼ ounce per pound) of body weight are added."—J. H. Hess: *Feeding and the Nutritional Disorders in Infancy and Childhood*, F. A. Davis Co., Phila., 1928, p. 278.

Concerning the treatment of marasmus, "When the stools have become smooth and salve-like, carbohydrate, in the form of dextrimaltose, may be gradually added up to the limit of tolerance."—L. W. Hill: *Practical Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 281.

In the feeding of prematures, "As soon as there is a hesitation in the gain in weight, dextrimaltose No. 1 is substituted for the dextrose, in the same amount in the mixture, with almost invariably a gain in weight."—F. B. Jacobs: *Relation of irradiated food substances and ergosterol versus cod liver oil in childhood nutrition*, *Pennsylvania M. J.* 35:164-167, Dec., 1931.

"A spasmophilic baby on bottle feeding should receive a limited amount of milk—a pint, or at the most 24 ounces in the 24 hours—to which cereal gruel and some form of sugar is added, preferably one of the malt dextrin preparations; also the early addition of other foods than milk to the baby's diet."—M. Jampolis: *Infantile spasmophilia*, *Interstate M. J.* 25:652, Sept., 1918; *abst. Arch. Pediat.* 35:691, Nov., 1918.

In cases of malnutrition and indigestion, "The appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as 'dextri-maltose,' for the extra

carbohydrates; . . ."—M. Ladd: *Further experience with homogenized olive oil mixtures*, *Arch. Pediat.*, 33:501-512, July, 1916.

In pyloric stenosis, "With low dextrose tolerance, a maltose dextrin preparation may be added in whole or in part. Even where the dextrose is well tolerated and gain in weight has ceased, impetus to the weight intake may be given by the addition of a maltose dextrin preparation."—D. J. Levy: *Pyloric stenosis and pylorospasm of infancy with especial reference to medical treatment*, *J. Michigan St. M. S.*, 21:166-170, April, 1922.

With reference to the treatment of diarrhea, "After several days, 2% to 3% of a maltose-dextrin preparation may be added (Dextri-Maltose). This is preferable to the easily fermentable lactose or cane sugar."—F. Lust: *The Treatment of Children's Diseases*, J. B. Lippincott Co., Phila., 1930, p. 145.

In dyspepsia, "The carbohydrate must not be allowed to exceed 3 per cent. Dextri-maltose is the most suitable sugar."

In the treatment of decomposition atrophy, malnutrition, marasmus, "... when there has been obvious improvement, dextri-maltose is gradually increased from 3 to 5 per cent."—B. Myers: *The nutritional disturbances of infancy*, *Brit. M. J.*, 1:1079-1083, June 21, 1924.

"The treatment of artificially fed children in the first of these groups consists in putting them on a low fat dietary, and giving them carbohydrate in the form of one of the less fermentable sugars—e.g., dextrimaltose."—L. G. Parsons: *Wasting disorders of early infancy*, *Lancet*, 1:687-694, April 5, 1924.

In the milder cases of inanition, "Regulation of this disturbed organismal balance is obtained by the addition of carbohydrates, while fat and casein are reduced. For this purpose dextrimaltose and flour are better than the ordinary sugars, since they are more slowly absorbed and have greater efficacy in their powers of controlling the flora in the large intestine."—W. J. Pearson and W. G. Wylie: *Recent Advances in Diseases of Children*, P. Blakiston's Son & Co., Phila., 1930, p. 116.

In intestinal intoxication, "I have had more experience with dried skimmed milk in which 2 to 5 per cent dextrimaltose, barley or rice flour has been cooked, and the mixture subsequently fermented by lactic acid bacilli or soured with lactic acid, than with any other food except protein milk."—G. F. Powers: *A comprehensive plan of treatment for the so-called intestinal intoxication of infants*, *Am. J. Dis. Child.*, 32:232-257, August, 1926.

Regarding the treatment of the marantic infant, "After the intolerance to sugar has been overcome a carbohydrate, preferably Dextri-maltose, may be added."—C. S. Raue: *Diseases of Children*, Boericke & Tafel, Phila., 1922, p. 427.

In spasmophilia, "Dextri maltose is the best sugar to use in these cases, in the proportion of 6 to 8 per cent."—J. H. Reading, Jr.: *Spasmophilia*, *Hahneman. Monthly*, pp. 403-411, July, 1922.

In the treatment of atrophy, "If the baby continues to improve, the next step in the treatment is to add to the milk one of the less fermentable carbohydrates, such as dextrimaltose; . . ."—H. Thurstfield and D. Paterson: *Diseases of Children*, William Wood & Co., 1929, p. 105.

"I also find dextri-maltose an excellent addition to albumin-milk when the first object of that food has been achieved and a gain in weight is desired; in this way I have succeeded in feeding albumin-milk far beyond the period usually advised, with highly gratifying results."—F. L. Wachenheim: *Infant-Feeding; Its Principles and Practice*, Lea & Febiger, Phila., 1915, p. 158.

"Dextri-maltose has been substituted for lactose not infrequently, when the tolerance for the latter continues low."—J. H. West: *Low fat, high starch evaporated milk feeding for the marasmic baby*, *Arch. Pediat.* 48:189-193, March, 1931.

"Malt sugar is indicated when others fail to produce a sufficient gain, or when malassimilation of fat is evident."—O. H. Wilson: *The role of carbohydrates in infant feeding*, *Southern M. J.* 11:177, March, 1918; *abst. Arch. Pediat.* 35:447, July, 1918.

## MEAD JOHNSON & COMPANY, Evansville, Indiana, U.S.A.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons.

# VegeMucene as an antacid



THE effectiveness of VegeMucene in the treatment of gastric and duodenal ulcer, as well as in many different types of irritable colon, continues to be reported to us in ever-increasing volume and from an ever-widening group of physicians and institutions—thus corroborating the experience of Meyer, Seidmon and Necheles, whose extensive clinical work with VegeMucene was reported by their paper published in October, 1933.<sup>1</sup>

In addition to these reports testifying to the effectiveness of VegeMucene in ulcer and colitis, there also comes to us an increasing number of favorable observations on VegeMucene as an antacid. We have known of VegeMucene's effectiveness in this respect from the very beginning, but, with the reserve and restraint we aim to exercise in these matters, we have until now refrained from making definite recommendations.

Now, in the light of accumulating favorable reports on the point, we feel we need no longer hesitate to emphasize VegeMucene's function as an antacid. Its value as such is clearly established by a most impressive clinical experience.

## A few words of explanation...

The physiological action of VegeMucene on the stomach and the results that almost invariably follow would, on first thought, appear to be in contradiction. However, examination of the matter and consideration of all the factors simplifies what at first appears paradoxical.

Meyer<sup>1</sup> and his associates show that VegeMucene causes an acid response in the human stomach, and show further that it causes a marked decrease in the emptying time of the dog's stomach—reactions that are in apparent contradiction and confusing in consideration of the results that almost invariably follow on the use of VegeMucene.

However, it should be borne in mind that physical and chemical tests show that one gram of VegeMucene absorbs 5.45 cc of 1/10 N Hydrochloric Acid. Therein, apparently, lies the factor to harmonize the contradictions of the seeming paradox. For, the facts of the matter would appear to be simply these:

The acid which is secreted in response to the ingestion of VegeMucene is rapidly absorbed by the VegeMucene and promptly passed out of the stomach into the intestine with the VegeMucene, as shown by the decrease in the emptying time of the stomach.

In this connection, it should be noted that the action of VegeMucene in the stomach is largely a physical action and does not change the chemistry of the stomach.

That this is the case is borne out by clinical experience. Patients taking one 22 grain tablet of VegeMucene approximately every two hours almost invariably experience immediate relief from pain and discomfort of gastric ulcer and hyperacidity.

These are the facts that warrant the definite recommendation of VegeMucene as an antacid as well as a treatment of *clinically proven effectiveness in gastric and duodenal ulcer.*

May we send you a sample of VegeMucene together with covering literature

### BioVegetin

PRODUCTS INCORPORATED

500-510 North Dearborn

Chicago

1Meyer, J., Seidmon, E. E., Necheles, H.: The Treatment of Peptic Ulcer, Ill. Med. J. Vol. LXIV, Page 339, Oct., 1933.

NOTE:—Have you read the above referred to paper? If not, let us know, and we'll be glad to send you a copy.







## *This Lurking Danger of the Next Attack*

● The paroxysm—excruciatingly painful though it may be—is not the sole source of concern to the sufferer from anginal attacks. The pain may be devastating in its severity and inspire a temporary longing for death to terminate it. But even worse than this is its morale-destroying influence between attacks—the fear when the next attack will strike. The anxiety of not knowing when or where it may come, destroys the patient's confidence in himself. \* \* \* \* When Aminophyllin (Searle) is parenterally administered, it relieves the paroxysm. But more important, when it is given orally, in tablet form, it exerts a prophylactic action. In some cases the attacks may be entirely eliminated; in others, such attacks as do occur are lessened in severity and frequency. The dread of attacks occurring at unknown times or places is reduced; confidence returns, and with it efficiency.

Samples and a special monograph will be mailed to physicians on request

*G.D. Searle & Co.*

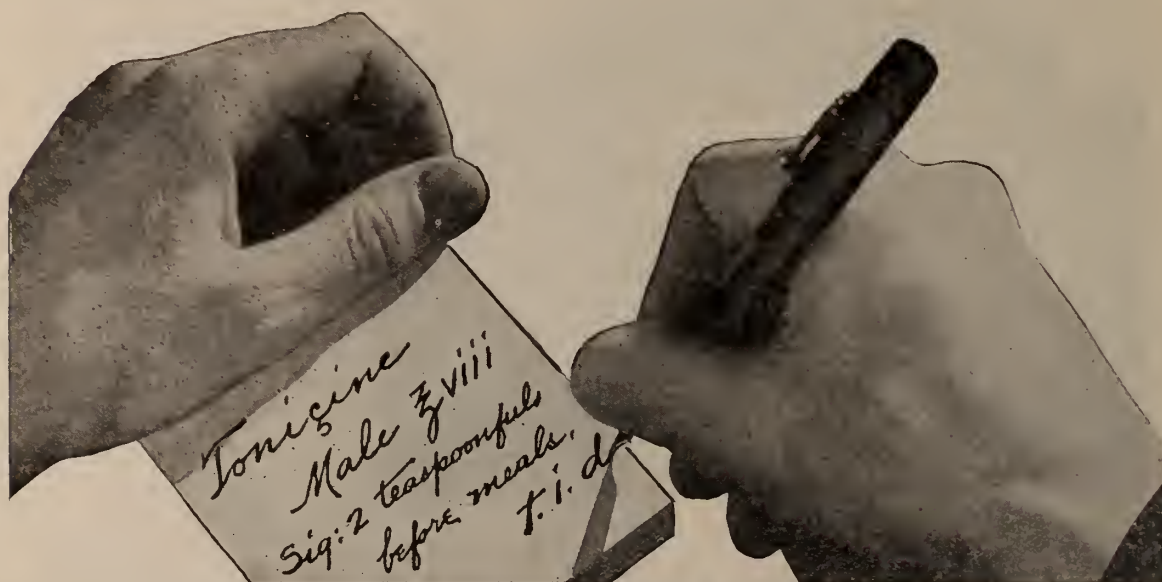
FINE PHARMACEUTICALS SINCE 1888

LOS ANGELES • CHICAGO • KANSAS CITY • SPOKANE



*Aminophyllin (Searle)*

COUNCIL ACCEPTED



## A Reconstructive Gonadal Tonic

### *Tonicine* (MALE)

contains, in each fluid dram, hormones representing fresh testicle 25 grains, strychnin sulphate 1/200 grain, and sodium glycerophosphate 1 grain.

### *Tonicine* (FEMALE)

contains, in each fluid dram, hormones representing fresh ovary 5 grains, strychnin sulphate 1/200 grain, and sodium glycerophosphate 1 grain.

Tonicine-Male, and Tonicine-Female are indicated in general convalescence, asthenia, anorexia, hypogonadism, and neurasthenia. Prepared in two forms to avoid the physiologic error of combining ovary and testicle in the same preparation.

*Samples to physicians on request.*

REED & CARNRICK, Jersey City, N. J., U. S. A.  
Toronto, Ont., Canada

Canadian Distributors:  
W. LLOYD WOOD, Ltd.  
64 Gerrard Street, E.  
Toronto, Canada



British Distributors:  
COATES & COOPER, Ltd.  
94, Clerkenwell Road  
London, E.C.1.





# "NO MORE *Effective* PRESCRIPTION FOR HEADACHES"

Again and again one encounters statements of this type in standard textbooks when acetanilid is under discussion. Usually these books recommend that it be taken in various combinations with caffeine and an alkali, sodium citrate being the most desirable because it is a physiological alkali and does not disturb the normal hydrochloric acid of the stomach.

Probably, Doctor, you know this from your own practice. "But," you say, "is it not habit forming?"

Careful analysis of a questionnaire sent to 8,500 hospitals by Lowy, Levinson and Helms shows conclusively that acetanilid does not lead to addiction. This substantiates statistically the clinical study of a small group of patients made by the same authors, and the animal experiments conducted by independent investigators, mentioned in earlier announcements in this series.

The coupon will bring you a reprint of the questionnaire study, and further assurance that acetanilid, whether given in your own prescription, or with caffeine, sodium bromide and sodium citrate as Bromo-Seltzer, is safe, effective and non-habit forming.

EMERSON DRUG COMPANY, BALTIMORE, MD.

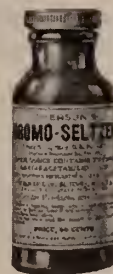
Please send me reprint of the questionnaire study, offered in your third announcement.

M.D.

St. & No.

City & State

**EMERSON DRUG COMPANY**  
BALTIMORE, MD.





## Make Mid-Morning Milk of Greater Value to the Child

1. Since milk is one of those foods that is slow in passing out of the stomach, why not hasten the process by breaking up the tough cow's milk curd into finely comminuted particles. (See illustration). This will help to insure an empty stomach at lunch time and, in consequence, hunger contractions and a hearty meal. Ovaltine does this.
2. Make the milk more palatable and attractive to the child's taste. Ovaltine does this.
3. Reinforce the milk with essential food elements—proteins, carbohydrates, fats, vitamins and important minerals such as iron, calcium and phosphorus. Ovaltine does this.
4. Build up appetite by increasing the vitamin B content of milk. Ovaltine nearly doubles the vitamin B content when used according to directions.



MILK CURD



OVALTINE CURD

Why not let us send you a trial supply of Ovaltine? If you are a physician, dentist or nurse, you are entitled to a regular package. Send coupon together with your card, professional letterhead or other indication of your professional standing.

**This offer is limited only to practicing physicians, dentists and nurses.**

THE WANDER COMPANY,  
180 No. Michigan Ave., Dept. I.M. 4  
Chicago, Ill.

Please send me, without charge, a regular size package of OVALTINE. Evidence of my professional standing is enclosed.

Dr. ....

Address.....

City.....State.....

Canadian subscribers should address coupons to A. Wander, Limited, Elmwood Park, Peterborough, Ont.

# OVALTINE

*The Swiss Food-Drink*

Manufactured under license in U. S. A. according to  
original Swiss formula





*Now you see* **AGAROL**



*Now you see something else*

A GOOD emulsion pours freely—and Agarol does. You fill the spoon for a dose, you don't scoop it out of the bottle. Or if you prefer, you place a dose in a glass, stir it a bit, and take it that way. A pleasing drink it is, too. For children, you add it to milk—and they like it.

■ Agarol is the original mineral oil and agar-agar emulsion with phenolphthalein. It affords easier and more thorough mixing with the intestinal contents. It offers greater palatability, absence of oily taste, and greater convenience in use. There is no sugar in Agarol; no artificial flavoring to get used to.

■ The treatment of constipation is much less of a problem when you rely on the dependable action of Agarol for thorough softening of the intestinal contents, for evenly distributed lubrication of the intestinal canal, and for gentle stimulation of the peristaltic function.

■ Try it. A request on your letterhead will bring you a complimentary supply.

# AGAROL FOR CONSTIPATION

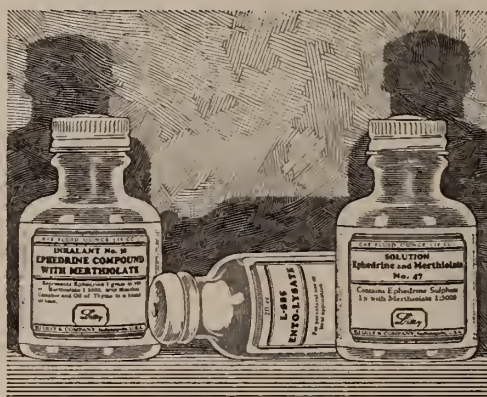
*Agarol is supplied in bottles containing 6 and 14 ounces.  
The average dose is one tablespoonful.*

WILLIAM R. WARNER & CO., INC.  
113 West 18th Street New York City

# ELI LILLY AND COMPANY

FOUNDED 1876

*Makers of Medicinal Products*



For treatment of nasal congestion due to colds and other upper respiratory infection, highly gratifying results can be expected from these three convenient Lilly items:

Inhalant Ephedrine Compound  
with Merthiolate, No. 30

Solution Ephedrine and Merthiolate,  
No. 47

Ento-Lysate

*Prompt Attention Given to Professional Inquiries*

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., April, 1934

No. 4

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1933-1934

PRESIDENT.....PHILIP H. KREUSCHER, Chicago  
PRESIDENT-ELECT.....CHARLES D. CENTER, Quincy  
1ST VICE-PRESIDENT.....C. G. FARNUM, Peoria  
2ND VICE-PRESIDENT.....H. V. GOULD, Chicago  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1934  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1934  
S. E. Munson, 5th District, Springfield .....1934  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1934  
C. E. Wilkinson, 8th District, Danville .....1935  
Andy Hall, 9th District, Mt. Vernon .....1936  
J. S. Templeton, 10th District, Pinckneyville .....1936  
Edw. S. Hamilton, 11th District, Kankakee .....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, *Secretary*.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN MCARTHUR, *Secretary*.....185 N. Wabash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, *Chairman*.....4034 W. Madison St., Chicago  
HAROLD M. CAMP, *Secretary*.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, *Secretary*.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Ave., Chicago. Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

### "RED MEDICINE?" WHAT? OR MEDICINE RED-WHITE AND BLUE?

Citizens of the United States, let alone the medical profession are face to face with the question as to whether it is the more advantageous to continue with ethical medicine on the good old honorable Red-White-and-Blue basis, or whether the healing arts are to be dispensed dripping with communist red.

Before any man or woman signs up for "Red" medicine, some knowledge should be broadcast as to exactly what is meant by "Red Medicine."

A sample of what it purports to be, although purport and fact in this instance are as antithetical as day and night, has been luxuriously set forth by Sir Arthur Newsholme, distinguished British medical statistician and commentator and John Adams Kingsbury of the U. S. A., an up and doing gent.

Nr. Kingsbury is the lay secretary of the Milbank Memorial Fund, whose chief raison d'être would seem to be the willy nilly socialization of medicine. Sir Arthur is a retired English public health official whose head is filled to overflowing with fanatical ideas of some Santa Claus faculty on the part of governments, even a government so tax-eaten as is his own Britannia!

Now Sir Arthur and Mr. Kingsbury went into Russia to burn incense at the soviet's socialized medicine. For a little over a month,—that is from Aug. 2, 1932, up until Sept. 7, 1932,—the Soviet Union authorities led these two gentlemen round about and pointed out what a fine medical system the U. S. S. R. has built up. Neither Newsholme nor Kingsbury *speak Russian*. Such was the effect upon them of what they saw and of what they were told that this trip of three dozen days in Lenin's land sent them forth literally belching praise and imitation of medicine and all the allied healing arts as seen through the scarlet spectacles of soviet centers.

In those 36 days the two devotees of socialized and state medicine covered 9,000 miles or 250 miles per diem and saw nothing to shake their

faith in their own ideas. At that they state themselves that "doubtless we were shown the best of what exists in Russia. . . . Our statements are open to this accusation, which has been similarly urged against earlier volumes by foreign visitors to the U. S. S. R."

Now Arthur Newsholme and John Kingsbury make frequent reference to the old Russia as it was in the time of the czars.

During that era, an arrogant minority composed of the nobility and the wealthy, lived in luxury at the expense of the masses. Medical care was largely in the hands of incompetent persons, frequently clergymen.

Medical and hospital services of a high standard were provided for the well-to-do in most of the large cities. But the health of the poor went virtually uncared for.

Under the Soviet rule all that has been changed: "When a Russian becomes ill, the government does something about it. In fact, the government has already done something about it, for Soviet Russia has decided that the health of the individual is the concern of society as a whole. Indeed, the Soviet Union is the one nation in the world which has undertaken to set up and operate a complete organization designed to provide preventive and curative medical care for every man, woman and child within its borders."

"The entire practice of medicine, having been socialized, is supervised and controlled by the public health organization in each of the seven constituent republics" that go to make up the present U. S. S. R.

"The scope of each of the seven health commissariats includes administration of preventive medicine, medical care, pharmacy, medical training and certain health resorts."

Not all the health districts are the same size. In fact, one province which takes in the bulk of Soviet Russia proper embraces 70 per cent of the country's entire population.

What about the lot of the individual physician in Russia today? How does he function in the Soviet machine?

"An essential difference between the practice of medicine in the U. S. S. R. and in capitalist countries is that every doctor is a state official, and in most instances is exclusively so. A few doctors, especially older doctors, still retain some private individual practice! but their number is

diminishing, and practically all the younger doctors are exclusively officials of the state.

"Each state doctor is expected to work six and one-half hours each working day for the state. Every fifth day he has complete cessation from work. If he is a specialist he may have only a four-hour day. Like every worker, he has at least two weeks holiday annually."

Nowhere has the family doctor been thrust into so total an eclipse as he has in Russia.

No less an authority than the Soviet's foremost health commissar, Mikhail Vladimirsky, makes the statement that "90 per cent of Russian physicians work in state institutions, and do not practice medicine privately."

There are two basic reasons for this: First of all, free treatment can be secured by the people only at state-operated dispensaries and hospitals. Hence, it is there that they go as a rule, seeing no reason to pay a private doctor for what they can get gratis.

In the second place, the ordinary Russian doctor today works at least four, five, or six hours a day for the state. Scant time is left over for private practice.

As a Soviet health commissar, Dr. Kuchaidzr, has observed, "patients desiring to do so can resort to private doctors, but they must pay them out of their personal funds."

"Medical salaries," say Messrs. Newsholme and Kingsbury, "are paid by the government, being graduated according to work and duration of service. . . . The physician receives a salary which is about two and a half times that of the nurse; but is less than that of a professional engineer, and not much above that of a teacher."

Sometimes it happens, of course, that "special salaries are given to exceptional men." But this is not the rule.

Before the Revolution, there were about 26,000 doctors in Russia. By 1931 the number had climbed to 76,000.

Despite this increase, the authors quote Dr. Vladimirsky as saying that Russia is still short some 20,000 medical men, as compared with the quota of the Five Year Plan; but that by 1937 the Soviet Government plans to "liquidate" this deficiency. "As an ideal, there should be one doctor to every 1,000 population."

Rapidly as the Soviet's medical population is growing, the "quality is not increasing so fast as



the quantity," one observer is said to have remarked.

"All the doctors are overworked. To avoid hasty work, the number of patients a doctor may see at the dispensary is limited to six an hour."

But even this attempt to give each patient more time is but a slight step in the right direction; for it can readily be seen that six patients per hour means ten minutes devoted to each one. And this is only half the time the patient in the United States ordinarily receives as the length of average office call.

"Next in significance to the fact that every doctor in Soviet Russia is a state official, is a further exceptionally developed feature of Soviet medicine, namely: the *concentration of medical practice in dispensaries, polyclinics, and hospitals.*"

Anticipating the objection that Soviet medicine, so thoroughly institutionalized, lacks the human touch of private practice, the authors of *Red Medicine* remark: "We saw no evidence of this, and do not regard it as a necessary consequence of officially organized medical practice. Furthermore, if one has to choose between the unaided sympathetic family doctor of average skill and the Russian system of a chain of dispensaries, polyclinics, hospitals, and sanatoria, when well run, the latter is preferable for a large proportion of total cases."

So far has the institutionalizing of Soviet medicine progressed that today house calls "are almost entirely limited to emergencies and restricted to patients who cannot attend a dispensary."

The selection of a physician by the patient is curiously regulated: "At the medical center for his district a patient can choose his own doctor; he can subsequently change his doctor if reasonable cause is shown." *But*, "at home the application for a doctor can not be for a special doctor, but only for the doctor allotted to that district."

Health Commissar Vladimírsky told the investigators specifically that in the Soviet Union "medical aid is given without payment to all workers and peasants, who form the bulk of the population. For the rest, the desire is to serve all gratuitously; but hitherto they have not been included in the general service, the first call being for the workers. Thus, in a dispensary, an intel-

lectual will have to wait until all the workers have been treated."

Main drawbacks to present-day Russian medicine, Sir Arthur and Mr. Kingsbury believe, arise from the tremendous population and vast area the Soviet medical authorities are striving to cover.

Among the complaints against the present system are found these:

"Patients object to the many formalities before they are allowed to see a doctor at the public clinic, and to the fact that the intervals before they see him again are excessive."

"There is usually a definite lack of hospital beds when needed."

"Medical attendance at home is unsatisfactory."

"Long waiting for a doctor often occurs."

Medicine in the U. S. S. R. is not "fully available, without discrimination, for the entire population."

"In Russia, social insurance differs from that of any capitalist country in that the workers do not contribute to the funds. No contributions are paid by them week by week as in other countries, but necessarily it is the funds chiefly created by their work which provide for their insurance. In each factory or other institution there is a social insurance bank, in which the contributions from the industry or institution to the insurance fund are deposited. These contributions are calculated on a per capita basis according to wages."

Since the cost of social insurance in the Soviet Union thus "falls on the employer, whether this be the state or a cooperative body, there is no charitable relief."

In the words of *Red Medicine's* authors, "the financial needs of social and medical work are met from three sources, namely:

1. Local taxes used for supporting local institutions.
2. Central funds contributed especially for the maintenance of medical and other staffs.
3. Insurance funds from which most of the money needed is derived.

G. R. Mitchison, in one of his *Twelve Studies in Soviet Russia*, states that the contributions of Russian industry for the medical care of the people "average about 14 per cent of the wages paid."

In the United States, on the other hand, only about 3 per cent of wages are expended for medical services. *Which means that medical care costs about four times more when socialized than it does under a system of private practice.*

With the conclusion of the authors of *Red Medicine* that the present Russian public health administration is distinctly praiseworthy, in that it represents a tremendous improvement over the conditions prevailing before the Revolution of 1917, no reasonable person can quarrel.

But sanity protests the propaganda which suggests, "What Russia has accomplished in its courageously original scheme for the health and social well-being of its people constitutes a challenge which western civilization must accept and meet."

Even if socialized medicine works well under the Soviets, which we doubt, there is no reason to assume that it would be equally desirable in other parts of the world, such as the United States, where an entirely different background and set of present-day conditions obtain.

Medical requirements of the two nations are totally dissimilar. Each represents an extreme and opposite type of government: the one highly communistic; the other completely capitalistic.

What the U. S. S. R. needs in the way of physicians is *quantity*. The U. S. seeks *quality*.

Not content with spilling all this rosy paint over soviet socialization of medicine, Kingsbury took a whack at a more conservative report on Russia's socialized medicine as contained in Sir James Purves-Stewart's book, "A Physician's Tour in Soviet Russia."

Undoubtedly the readers of this article will find of great interest reprint of a letter sent to a United States medical journal by Purves-Stewart as well as comment upon the Newsholme-Kingsbury book printed in the *Detroit Medical News* and the *Indiana Medical Journal*.

In writing to the "*New England Journal of Medicine*," Sir James Purves-Stewart states:

8 Buckingham Street,  
Westminster, S. W., 1,  
November 24, 1933.

"Dear Mr. Editor:

"Many thanks for the sheet from the *New England Journal of Medicine* of November 9th containing Mr. Kingsbury's letter, in which he criti-

cizes my little book, "A Physician's Tour in Soviet Russia."

"I hold no brief either for or against the Soviet regime. My observations on medical conditions in Soviet Russia simply state the facts as I found them. Perhaps Mr. Kingsbury's political sympathies may have colored his views. The facts as I have stated them are correct, that the medical practitioners in Russia are miserably paid, not only in comparison with other brain-workers, such as engineers, but even compared with some of the heavy manual-workers. The Soviet government is building beautiful new hospitals, sanatoria and baby-breeding farms, regardless of expense, but they economise severely on the salaries of their medical staff. Consequently the medical profession now offers no future for an ambitious man. He prefers to become an engineer, an aviator, or best of all a member of the Communist Party. I am truly sorry for these medical men who are gallantly struggling under conditions of economic stringency. True, they have only a 5-hour day, but most of them accept two billets in the day, so as to draw a double salary and even then they can just make ends meet.

"I happen to have a personal friend in Russia, a professor of international reputation. His name, for obvious reasons in his own interests, I must withhold. Before the War he had a good income. Out of his savings he bought himself a comfortable house in which to live with his daughter and son. Since the Revolution his house has been commandeered by the government and he and his family are allowed to occupy two rooms. The remaining parts are divided up amongst various 'comrades.' Of course, the communist will claim that all this is perfectly just and proper.

"It seems to me that, boiling it down crudely to bed-rock facts, everything depends on whether we accept the communist dogma that all men are equal, and therefore deserving of equal rewards from the state, whether they are idle or industrious, extravagant or thrifty, intellectually dull or alert. Once the primary axiom is accepted, all the rest follows as a matter of course. But some of us cannot swallow the fundamental principle."

Writing in the "*Detroit Medical News*," Dr. John B. Rieger says in comment: "Apropos of Joseph E. G. Waddington's comments on 'Red



Medicine' in the January 22, 1934, *Detroit Medical News*, may I quote from a review of this book that appeared in the *New York Times Review* on January 21, 1934.

"The reviewer, Henry A. Koiransky, M.D., states: "All Soviet schemes are grandiose whatever may be the true measure of their actual fulfillment—what the reviewer wishes emphatically to affirm is that the report made by Messrs. Newsholme and Kingsbury is misleading in the extreme to the uninformed reader; it places the medical achievements of pre-revolutionary Russia in a false perspective, and it is not a sufficiently thoroughgoing analysis of the existing situation to merit recognition, as a scientific investigation of the facts.' Parenthetically, the Milbank Fund which sponsored the trip of one of the authors to Russia, it should be stated, is a lay organization, whose aims have for some time been under the suspicion of thinking physicians (Ed., J. A. M. A., Oct. 28, 1933) and recently Mr. Alfred G. Milbank, its founder, came out definitely for State Medicine as the objective sought.

"While we must admire Mr. Waddington's manful working of the bellows in behalf of socialized medicine, as he observed it in Russia, and, while it undoubtedly has its good points,—fancy a Russian physician understanding no English, being conducted by an interpreter through perhaps a dozen of the better known hospitals and clinics in this country and going home to retail his impressions. He must inevitably have been impressed with the seemingly tremendous monetary rewards that come to the American physician (often collected in advance of the actual service) the millions available for research, the chief physicians riding about in splendid automobiles with uniformed chauffeur, etc., etc.—yet, what has all this to do with the rank and file of medical practitioners and their patients—gasconade!

"If the practice of medicine has been debased in these United States, it is after all the work of a few individual physicians and the right to say how medicine is to be practiced still remains with the doctors. In Russia, the profession has metaphorically, been eviscerated en masse. While, in America, individual physicians in the course of our 'noble experiment' became bootleggers—in the Russian experiment, to cite a specific example, an entire profession, dedicated to the preservation of human life, stands com-

mitted to aborticide, at the behest of lay masters—and the Greeks had a name for that too!"

In the *Journal of the Indiana State Medical Society* is found this comment:

#### KINGSBURY AT IT AGAIN?

"John Adams Kingsbury, LL.D., seems to be continuing his campaign for socialized medicine; together with Sir Arthur Newsholme, K. C. B., M. D., he has presented for the reading populace a new book, 'Red Medicine.' It is said to have been written after a study of present-day medicine in sovietized Russia.

"In a news release recently sent out an opening declaration immediately attracts our attention when it speaks of the 'fact' that socialized medicine 'has removed the doctor almost entirely from the field of monetary competition and has thus abolished a chief source of inadequate medical service.'

"A little further along the authors make the tacit admission that the present arrangements are far from perfect, but feel that the *centralized power of sovietism* will rapidly overcome the present defects and that soon nothing will be left to be desired. They refer with great gusto to the fact that in 1927 it seems that cholera was finally wiped out—get that, cholera was wiped out in the good year 1927! Smallpox and typhus are on the decline, but typhoid continues a menace. The morbidity from diphtheria and scarlet fever is found to be higher than in 1927 and 1929.

"They also agree that the Russian system of home treatment of disease is not what it should be, due to poor housing conditions; they also make the interesting statement, 'we had reason to doubt whether domiciliary medical calls for treatment, *when made* (italics ours), received prompt attention in all cases.' This latter statement is of crucial importance when considering any form of socialized medicine, and should be borne in mind. It is quite evident that Russian physicians are human after all; they carry on just like other humans who are paid a definite sum for an unlimited amount of work!

"Kingsbury is pretty well known to medical men in his capacity as executive secretary for the Milbank Foundation Fund, which seems to be especially interested in matters pertaining to public health. Latterly, the Kingsbury efforts would seem to be almost wholly directed toward

the socializing of medicine. Newsholme, after a *very brief experience in actual practice*, has spent his medical career almost wholly in public health work, much of which time has been spent in visiting various countries, all the while engaged in public health problems. It is but natural, then, that these men should approach the question from the viewpoint of public health men rather than from the professional side; *it has long been our observation that one engaged wholly in public health work, with practically no direct contact with the practice of medicine, soon becomes possessed of the idea that socialized medicine offers a definite panacea for all the ills of humankind.*

"We refuse to become excited over the results of state medicine in Russia; the medical world has long known that there was much room for improvement over there. During the Czaristic regime the peasant class, which means most of Russia, was poorly cared for, medically. It is no wonder that disease amounting almost to pestilence prevailed.

"We have read numerous articles describing medical conditions in Russia of the present, written by professional men and laymen; in not one of these have we noted such an optimistic trend as is indicated in 'Red Medicine.' That, of course, is not at all strange since the book in question is written by men whose viewpoint is very narrow.

"However we may view it, the fact is that we must combat such tendencies as are exhibited in this book. Our reading public is devouring such material; many readers are accepting it as true gospel. *Our medical press must attack this thing and attack it in no uncertain terms.* We must admit, openly, that there is a schism between public health organizations and the various medical associations since this is very apparent to those who look into it. We cannot help wondering just what the attitude of commercial business men would be were they to be assailed as are members of the medical profession; the business interests whose profits organized the Milbank Foundation Fund probably would be a bit antagonistic to an organization or to a group of individuals who essayed a program looking toward the socialization of that industry.

"We shall expect to hear more of Kingsbury and men of his type; it is up to us to be ready to combat their insidious propaganda."

## A LEFT-HANDED PERSON IS JUST THAT AND NOTHING MORE NOR LESS

Vindication of the south-paw's right to be a south-paw instead of submitting to tedious training as an ambidexter comes to us from a kindly Frenkfort-er, one Prof. Bethe, highly regarded in his native Germany.

This studious Teutonic physiologist has been busied with research as to whether there is any superiority in either brain hemisphere and if so which.

Acting on the premise that the left hemisphere is superior to the right, Prof. Bethe among other activities addressed a questionnaire to four universities and discovered that in these institutions some 20 per cent of the faculty was left-handed, a far higher average than is supposed commonly to exist. Advancing further along the lines of this survey, results showed some mental superiority among the professional "south-paws" compared with the right-handed men. Insufficient evidence was obtained from the survey to uphold the Bethe hypothesis that there may be an unequivocal superiority of one hemisphere of the brain over the other. The artist Leonardo da Vinci and the eminent surgeon Ludwig Rehm were both left-handed and were among the gifted instances that set Bethe out upon his research. Bethe's very earliest incentive towards these experiments came however from the observation that persons whose right arm was amputated during the World War adapted themselves rapidly to the use of the left arm. Experimenting on himself, Prof. Bethe became accustomed to use his left hand, after a lapse of several years. In contrast, he says that, when a person is suddenly deprived of an arm, the ability to use the other arm develops rapidly. The alleged predominance of one hemisphere of the brain over the other hemisphere cannot be harmonized with this fact. Left-handedness is more common than is generally supposed. Among 266,000 soldiers, 10,300 were left-handed, or 3.9 per cent. The proportion of left-handed and of right-handed young children is identical, ranging around 17 per cent; the remainder are ambidextrous. With increasing age, the proportion shifts toward the side of right-handedness. Another series of statistics lists 25 per cent of a group of children as left-handed. Bethe instituted experiments on a



large scale on students and reached the conclusion that there is absolutely no predominance of the right side in the use of the limbs. His investigations showed the proportion of genuine right-handed and left-handed subjects to be as 20 to 25 per cent.

The next thing to be decided is whether the domination of one side is of a primary or an acquired character. A fact frequently observed is that in aphasic plegia of a left-handed child in whom the speech center would be assumed to be in the right hemisphere, the paralysis does not affect the left side. Experiments have established that in the frog and in the shark, after removal of a labyrinth, a lateral diversion of the leg or fin, respectively, develops, which, after extirpation of the second labyrinth, continues unchanged as a pronounced acquired modification of behavior. Similar observations have been made on the dog, which, after removal of one cerebellar hemisphere, develops the staggers and retains the disorder following removal of the other hemisphere. Therefore it may be concluded that central manifestations occur as a result of acquired functional procedure. Other experiments point to the same conclusion. The view that left-handed persons are supposed to suffer from physical deformities, mental backwardness, epilepsy, criminal tendencies, strabismus, deafmutism, stuttering, and the like, is discredited by the fact that many distinguished men (for example, Leonardo da Vinci and the surgeon Ludwig Rehn) were left-handed.

That nervous children, born left-handed, should be subjected to the discomfort if not torture of training to become right-handed would seem to be an overexaggerated tendency of modern education. The knack of ambidexterity makes for convenience, but it is, after all, just that—a possible convenience rather than an essential adjunct of existence.

---

#### STATE COUNCIL APPROVES PROGRAM OF THE MEDICAL COMMISSION OF THE VETERANS' SERVICE COMMITTEE

At the council meeting of the State Medical Society in March the chairman of the committee, Dr. F. O. Fredrickson, presented the following report which was unanimously adopted, as follows:

The revised program of the medical commission, Department of Illinois, as approved by the Department of Re-Habilitation Committee, to be presented to the next department Legion convention by the re-habilitation committee is hereby submitted:

The objects of the Medical Commission are:

1. To effect close contact between the American Legion and the Medical Profession through the Veterans' Service Committee of the Illinois State Medical Society.
2. To study carefully all problems of mutual interest to the veteran and organized medicine.
3. To assist Service Officers from a medical standpoint, in proving service connected disabilities in order that the cases of deserving veterans may be made compensable.
4. To guide the health activities and welfare work of the Legion in such a way as to prevent misunderstanding between the Legion and the County Medical Societies in their respective communities.

5. (a) That we are in accord with the present law and regulations that provide hospital treatment and out-patient treatment for all Service connected disability cases of all war veterans with honorable discharge; and that we further recommend that the same treatment be available for all war veterans unable to pay.

(b) That we recommend that all acute critically ill cases of all war veterans with honorable discharge with service connected disabilities and those unable to pay be treated in the community in which they arise by an approved physician of the veteran's choice, in home or local hospital, and that a reasonable fee be paid by the Government to the physician in charge and hospital, upon the presentation of the bill O.K.'d by the President of the County Medical Society in which the emergency occurred.

(c) That we recommend that all the war time veterans with honorable discharge and unable to pay for treatment who are suffering with chronic constitutional diseases and injuries be afforded Government hospitalization upon the request of the veteran or his conservator.

---

#### FAILURE OF PERSEVERANCE

Doctor: What! Your dyspepsia is no better? Did you follow my advice and drink hot water one hour before breakfast?

Patient: I did my best, but I couldn't keep it up more than ten minutes.—*St. Anthony's Messenger.*

## MEDICAL ECONOMICS

The questionnaires returned to the Committee on Medical Economics from the doctors of Pulaski, Franklin, Livingston, and Winnebago Counties, show that there are two economic problems which are causing considerable thought and some discussion. The chief of these has to do with the subject of contract practice, which is more common in the industrial and mining communities than in those strictly farming. But there is no community in which the subject fails to cause some thought. There is nothing ethically wrong about contract practice in itself. The trouble comes from the way in which the contract is drawn so that it is unfair to either the doctor, holding the same, or his conferees. Whenever the contract calls for prices below the regular fee schedule of the community, there is present a most excellent excuse for trouble to arise and rarely does it fail to do so. The above has to do with contract practice with industry, which naturally is trying to get their accident work cared for at the lowest possible price. When the company attempts to include in the contract the care of their employees and in some cases their families, trouble is inevitable for the family physician is struck in his most vital spot, the pocketbook, and soon recognizes this fact. Wherever this sort of contract is in effect, it is naturally at reduced rates and the human tendency is to lessen the quality of the service with resulting discontent among the criticism from the recipients, as well as the medical profession.

In some counties the County Medical Society has recognized the serious nature of this problem, and has revised its constitution and by-laws so that every proposed contract must be submitted to a special committee of the society before the same can be accepted by the physician. Failure to so submit, or signing of a contract which the committee fails to approve, automatically suspends the signing physician from the County Society. This is a move to control the contract practice and while it has caused trouble in some communities, it appears to be a move by medical men to control one more of the potential trouble-makers of the profession. Some men see a great danger in uncontrolled contract practice as a step toward State Medicine. Your Committee has discussed this subject and is studying it further, hoping to be able to make a recommendation of some kind at the next annual meeting in Spring-

field. Of course, work paid for by insurance companies, under the State Compensation Act, is so closely allied to the above type of contract practice that they must be considered together. Here again, there is constant discussion and argument between the medical men themselves as well as between the insurance companies and the physicians.

Your committee hopes to have a recommendation as to the manner of handling disagreement between the insurance companies and the attending physicians ready at the annual meeting. We realize that action of some kind is very necessary in the near future if the insurance companies are to be held in bounds, but it is a little difficult to solve the problem.

Another question which your committee has investigated, as yet incompletely, is the subject of Group Hospitalization. This is a very new live subject, which has been approved by about 20 of the state societies. It has to do with the payment of hospital bills through the prepayment of a monthly fee collected either directly or through their employer by either the hospital or a special organization. Of course this is patterned after the insurance companies, with this difference, that the medical profession holds more or less supervision over the organization. Some places this scheme is working excellently while in others there is criticism. Its opponents see in this another encroachment of State Medicine and feel that it is just a question of time until the same plan will be attempted in regard to the payment of the doctors. In fact such a plan has been in use in some states, with questionable success. An article in the J.A.M.A. of March 24, 1934, shows some of the possible troubles from such a plan, which is not directly under the control of the medical profession. Your committee has tried to study this problem and feel that it is worthy of considerable serious consideration either by this or some other committee.

On March 25, the committee met with a committee of the Chicago Medical Society and talked over these problems, which are identical in both societies. Considerable discussion was held, and while there was difference of opinion, it was agreed that the subject should be studied further before a definite recommendation was made.

E. S. HAMILTON

Chairman of Committee on Medical Economics,  
Kankakee, Ill.



## EIGHTY FOURTH ANNUAL MEETING

The preliminary program for the 1934 Annual Meeting of the Illinois State Medical Society is published in this issue of the ILLINOIS MEDICAL JOURNAL. Although published only in preliminary form and considerably different from the completed, official program, there is enough information contained in this publication to show that the 1934 Annual Meeting has been well arranged, and that it will be to the advantage of every member of this Society to arrange now to be present on May 15, when the meeting begins.

The Pediatricians have arranged an interesting program for the men in their specialty, which will be given on Tuesday morning. All members are cordially invited to attend this special session.

The Secretaries' Conference has arranged an interesting program which will be given Tuesday morning, at 10:00 o'clock. The attendance at this Conference is not limited to officers of component societies, but everyone is urged to attend it.

The Oration in Medicine will be given at 1:30 p. m. Tuesday, following the Opening Meeting, and the speaker is Dr. Walter L. Bierring, President-Elect of the American Medical Association, of Des Moines, Iowa. The Oration in Surgery will be given at 11:00 a. m. Wednesday, by Dr. Frederic J. Cotton of Boston.

Many interesting commercial and scientific exhibits have been arranged, and this year there are several new features presented among these exhibits, in the form of demonstrations which should be highly popular with all physicians.

The State Health Department will demonstrate the technique of giving Schick and Dick tests, and will have physicians in charge who will not only demonstrate the proper technique, but will also be prepared to give any information on the subject that may be desired.

A group of outstanding members interested in fracture work will give demonstrations of the management of the more common type of fractures. Regular demonstrations have been arranged for, to be given all morning on Tuesday, and in the morning and afternoon on Wednesday and Thursday. Complete schedules of these demonstrations appear in the program.

Allergy demonstrations, including skin tests, and their interpretation will be shown in two booths, and there will be some interesting patho-

logical exhibits, with a demonstration of fresh pathologic tissue daily.

The President's Dinner will be held at the Abraham Lincoln Hotel on Wednesday evening, May 16, and it is hoped that all members attending the meeting will arrange to participate in the honoring of the President of the Society.

The first Meeting of the House of Delegates will be held on Tuesday Afternoon, at 3:00 o'clock, and the second meeting will be held at 8:30 a. m. Thursday. Every county medical society is entitled to representation in the House of Delegates, the legislative body of the State Medical Society, and they should elect delegates who will actually represent them, and their interests.

The Sangamon County Medical Society has been working through their general Committee on Arrangements, and the sub-committees so that everything will be arranged to make this meeting one that will compare favorably with any meeting in the past.

The Annual Meeting is the members' own meeting, and it is hoped that all members will plan to make the attendance at the 1934 meeting greater than that at any previous meeting of the Society.

Hotel reservations may be made by addressing the hotels of Springfield direct, or they may be made through the Committee on Arrangements. Springfield is well supplied with hotels to accommodate large crowds, but it is always desirable to have definite arrangements made in advance of the Meeting, so *make your hotel reservation early*.

The Official Program giving all details concerning the Meeting will be published in the May ILLINOIS MEDICAL JOURNAL.

## SUGGESTIONS FOR PREPARATION OF BIBLIOGRAPHY FOR PUBLICATION

The suggestions on preparation of copy for publication would be far from complete unless the subject of bibliography were included. Probably no single feature of copy varies so much as the reference to medical literature appended to papers submitted for publication in the Journal.

Since 1927 the Index Medicus has maintained a uniform standard of references which answers every requirement of brevity, uniformity and accuracy that makes it the supreme

arbiter in this field. This system was directed to our attention by Mr. Alfred L. Robert, medical librarian of Columbia University, and we have redacted copy recently submitted to the Journal in accordance with this plan. This was facilitated by the cooperation of the staff of the Crerar library.

If authors will follow this system from this date it will save extra work for all concerned.

The example quoted by Mr. Robert was taken from February ILLINOIS MEDICAL JOURNAL as follows:

"Ford, H. L., Deep neck infection—surgical approach, Illinois M. J. 65: 117-128, 1934."

It will be noted that this contains the author's name and initials, title of paper, name of journal abbreviated, volume number in *Arabic numerals*, pages, *first and last*, and year.

The data include everything necessary to locate the article in a library with nothing superfluous.

Similarly *quotations from books* should contain the author's name, title of book, place of publication, publisher's name, year and pages.

Arabic numerals are specified instead of Roman as they are more familiar and less liable to error in copying. That the liability to error is no dream it may be noted that our "makeup" man set the Journal head, in January, 1931, LVLLLL. The following month this was set LIX. If it had been printed 59 there would have been no possibility of mistaking it!

It is probable that we will use Arabic numerals on our volume beginning in July as many other publications are making this desirable improvement in style.

*Spelling:* A notoriously often misspelled word was overlooked in our list published in March, namely, *desiccate*. It is derived from *L. de*, thoroughly, and *siccus*, dry. This tip on its derivation should help the 50 per cent. who slip in spelling this word.

#### REPREHENSIBLE MEDICAL ENGLISH TWELVE VALUABLE POINTS IN THE LANGUAGE OF MEDICINE

1. "Case" must not be used for "patient," nor "cure" for "treatment."

2. "Tubercular" means "nodular"; "tuberculous" means "infected with the bacillus of tuberculosis."

3. "Systoscope" is a noun and must not be used as any other part of speech.

4. It is possible to "operate a cotton-gin." *but it is not possible to "operate a patient"—nor his appendix.*

5. "Acute appendicitis" is common, but an appendix cannot be "acute."

6. "Acute abdomen" is beyond the pale.

7. "Pathology" means the "science of disease"; it is therefore absurd to speak of "pathology in the right lung."

8. "Positive serology" is the worst type of jargon; apparently "positive Wassermann reaction" is usually meant.

9. "Specific" and "luetic" are convenient to obscure meaning from patients' relatives, but "syphilitic" is better in writing for the medical profession.

10. It is incorrect to say the patient had "no temperature." One may say that there was "no elevation of temperature," but it is shorter to say there was "no fever."

11. "Shot" is perhaps the most abused and overworked word in medical literature. Shot is of lead.

12. Bad spelling is unpardonable, so a good dictionary is indispensable.

—*Jour. Med. Assn. of Ga.*

#### ADVERTISING SOLICITORS WANTED

The ILLINOIS MEDICAL JOURNAL desires in Chicago and in each of the principal cities in the United States solicitors, preferably persons with medical advertising experience. No guaranteed salary. Compensation solely on commission basis.

ILLINOIS MEDICAL JOURNAL,

6221 Kenmore Ave., Chicago, Illinois.

#### VETERANS' DINNER AT ANNUAL MEETING

The Veterans' Service Committee of the Illinois State Medical Society, with Dr. F. O. Fredrickson as Chairman, has arranged an unusually interesting dinner program for the Annual Veterans' Dinner in connection with the Annual Meeting to be held in Springfield on May 15, 16, 17. The dinner will be held on Tuesday evening, May 15.

The speakers on this program will be National Commander Edward H. Hayes, of the



American Legion, Dr. E. H. Cary, Past President of the American Medical Association and Chairman of the A. M. A. Committee on Legislation, of Dallas, Texas, and Dr. T. B. Williamson, Department Surgeon of the American Legion, Department of Illinois, and also a member of the Veterans' Service Committee.

The Veterans' Dinner and Annual Meeting has been an important function at the Annual Meeting of the Illinois State Medical Society since it was first held some years ago, and the Committee is to be congratulated on having an excellent array of speakers for the next meeting.

All medical veterans of Illinois are expected to be present, and all other members of the State Medical Society are cordially invited to be present as well, and it is hoped that the efforts of the Veterans' Committee will be rewarded this year with the largest attendance of all times.

---

### MAKE YOUR HOTEL RESERVATIONS EARLY

Springfield, the host for the 1934 Annual Meeting, has been working for some months on plans for the best meeting of all times, for the Annual Meeting to be held in that city on May 15, 16, 17, 1934.

Although Springfield is well supplied with excellent hotels, it is hoped by the Committee on Arrangements that all members expecting to attend the Annual Meeting, make their hotel reservations well in advance of the meeting. This can be arranged by writing the hotels directly, or addressing the Chairman of the Hotel Committee in Springfield.

Spurred by the unusually successful and largely attended meeting held in Peoria last year, the Committee on Arrangements from the Sangamon County Medical Society are doing everything possible to equal or perhaps exceed the 1933 registration.

It is always desirable to have hotel accommodations arranged for in advance of the meeting, and such a procedure will not only aid the members attending the meeting, but will also be of great help to the local committees, as well as the hotels, in order that adequate arrangements may be completely assured.

### GENETICS VERSUS EUGENICS

The latest advances in our knowledge of genetic principles put a brake on the cocksure eugenicist who has fatuously believed that through wide sterilization of the "undesirable" and "unfit," and through encouragement of marriage and reproduction on the part of the "desirable" and "fit," he could eliminate "bad" strains and insure evolution along "right" lines.

But the geneticists have shown that it is not so simple as all that. We are all carriers of bad genes. Environment is now getting a better "break."

Too many strangely linked genes are involved, and we know very little about them. Human heredity cannot be charted like that of fruit-flies.

What is unfitness? What is unsocial behavior? How vague such concepts are. One sees monstrous behavior, as viewed by certain "respectable" standards, giving results actually rated, ultimately, as socially noble. To particularize is surely needless. Who can say that the "best" culture of the day is perfect? Were the Moors or the barbarians substandard? Is not the energy of a Capone, *in itself*, just as good as that of a Jonathan Edwards?

He who would, in our present state of knowledge, not hesitate blithely to direct the "evolution" of his fellows in eugenic fashion, himself falls into the defective class.

The most significant data on these points are to be found in Hogben's *Genetic Principles in Medicine and Social Science* (New York, Alfred A. Knopf, 1932).

Says Hogben: "Generally speaking, we are not in a position to standardize the genetic composition of human beings."—M. F. & L. I. M. J.

---

### IMPETIGO

According to Dr. J. G. Tomkinson, in *Practitioner*, Lond., Mar., 1932, impetigo contagiosa is a streptococcic infection. Most cases yield readily to treatment. For removal of the scabs, the boric acid-starch poultice is one of the best methods. An ointment, the base of which may be zinc oxide ointment, vaseline or equal parts of it and lanoline, to 1 ounce of which ammoniated mercury, gr. V, is added, should be applied on lint to the surface beneath the scabs. In intractable cases the author has found an aqueous lotion of ichthyol, usually 10 percent, applied on lint, of great value. It should be dabbed on to the parts, the soaked lint applied and changed night and morning, with a midday moistening.

In bullous cases, the lesions should be punctured with a sterile needle and a dressing of boric acid ointment applied.

---

### BROKE, TOO

A Salvation Army lassie was shaking her tambourine in front of the crowd streaming out of the Hudson Terminal as he arrived in the city, saying, "Won't you give a little for God?"

"Good Lord!" ejaculated a gentleman near him. "Is he broke, too?"

# ILLINOIS STATE MEDICAL SOCIETY

## EIGHTY-FOURTH ANNUAL MEETING

SPRINGFIELD, ILLINOIS

May 15, 16, 17, 1934

### OFFICERS

Philip H. Kreuscher, *President*.....Chicago  
 \*Charles D. Center, *President-Elect*.....Quincy  
 Charles G. Farnum, *First Vice-President*.Peoria  
 H. V. Gould, *Second Vice-President*....Chicago  
 A. J. Markley, *Treasurer*.....Belvidere  
 Harold M. Camp, *Secretary*.....Moonmouth

### THE COUNCIL

E. H. Weld, 1st District.....Rockford  
 Edgar C. Cook, 2nd District.....Mendota  
 J. S. Nagel, 3rd District.....Chicago  
 R. K. Packard, 3rd District.....Chicago  
 L. E. Day, 3rd District.....Chicago  
 E. P. Coleman, 4th District.....Canton  
 S. E. Munson, 5th District.....Springfield  
 T. B. Knox, 6th District.....Quincy  
 I. H. Neece, 7th District.....Decatur  
 C. E. Wilkinson, 8th District.....Danville  
 Andy Hall, 9th District.....Mt. Vernon  
 J. S. Templeton, 10th District....Pinckneyville  
 E. S. Hamilton, 11th District.....Kankakee

R. K. Packard, Chairman of the Council.

### ILLINOIS MEDICAL JOURNAL

Chas. J. Whalen, *Editor*.....Chicago  
 Henry G. Ohls, *Managing Editor*.....Chicago  
 H. J. Stewart, *Secretary, Publication*

*Committee* .....Oak Park  
 Irving S. Cutter, *Permanent Historian*..Chicago

### STANDING COMMITTEES

#### PUBLIC POLICY

W. S. Bougher, *Chairman*.....Chicago  
 Chas. J. Drueck.....Chicago  
 George Michell .....Peoria

#### LEGISLATIVE

John R. Neal, *Chairman*.....Springfield  
 Thomas P. Foley.....Chicago  
 Edward Bowe .....Jacksonville

#### MEDICO-LEGAL

J. R. Ballinger, *Chairman*.....Chicago  
 R. O. Hawthorne, *Secretary*.....Monticello  
 C. U. Collins.....Peoria  
 Walter Wilhelmj .....East St. Louis

Oscar Hawkinson .....Chicago  
 A. H. Geiger.....Chicago

### RELATIONS TO PUBLIC HEALTH ADMINISTRATION

F. F. Maple, *Chairman*.....Chicago  
 Thomas Meany .....Chicago  
 Frank Heda .....Chicago  
 Ralph Hinton .....Elgin  
 Lee Frech .....Decatur

### MEDICAL EDUCATION AND HOSPITALS

J. P. Simonds, *Chairman*.....Chicago  
 W. R. Marshall.....Clinton  
 H. O. Munson.....Rushville

### COUNCIL COMMITTEES

#### EDUCATIONAL COMMITTEE

R. R. Ferguson, *Chairman*.....Chicago  
 William D. Chapman.....Silvis  
 Chauncey Mahrer .....Chicago  
 O. C. Stanley .....Decatur  
 G. C. Otrich .....Belleville  
 Jean McArthur, *Secretary*.....Chicago

#### SCIENTIFIC SERVICE COMMITTEE

Frank L. Brown, *Chairman*.....Chicago  
 Chas. D. Center.....Quincy  
 Jas. T. Gregory .....Chicago  
 Percy Hopkins .....Chicago

#### MEDICAL ECONOMICS COMMITTEE

E. S. Hamilton, *Chairman*.....Kankakee  
 I. H. Neece .....Decatur  
 E. H. Ochsner .....Chicago  
 C. E. Wilkinson.....Danville

#### VETERAN'S SERVICE COMMITTEE

F. O. Fredrickson, *Chairman*.....Chicago  
 H. J. Way .....Chicago  
 E. P. Coleman .....Canton  
 F. G. Norbury .....Jacksonville  
 T. B. Williamson .....Mt. Vernon  
 J. S. Nagel .....Chicago

#### ADVISORY COMMITTEE TO ILLINOIS EMERGENCY

##### RELIEF COMMISSION

John R. Neal, *Chairman*.....Springfield  
 Harold M. Camp, *Secretary*.....Monmouth  
 Philip H. Kreuscher.....Chicago  
 S. E. Munson.....Springfield  
 E. C. Cook.....Mendota  
 Chas. H. Phifer.....Chicago  
 Julius H. Hess .....Chicago  
 R. K. Packard (ex-officio).....Chicago

\*As JOURNAL goes to press, we learn that Doctor Center died March 31.



# DELEGATES AND ALTERNATES TO AMERICAN MEDICAL ASSOCIATION

## DELEGATES

C. J. Whalen.....	1934
Wm. D. Chapman.....	1934
J. J. Pflock .....	1934
G. Henry Mundt.....	1934
G. C. Otrich .....	1934
R. L. Green.....	1935
C. S. Skaggs.....	1935
Mather Pfeiffenberger .....	1935
C. E. Humiston.....	1935
C. B. Reed.....	1935

## ALTERNATES

M. I. Kaplan.....	1934
C. S. Nelson.....	1934
N. S. Davis, III.....	1934
F. P. Hammond.....	1934
R. J. Coultas.....	1934
E. P. Coleman.....	1935
E. H. Weld.....	1935
Andy Hall .....	1935
F. L. Brown.....	1935
G. Kaufman .....	1935

## SECTION OFFICERS

### SECTION ON MEDICINE

R. F. Herndon, <i>Chairman</i> .....	Springfield
Don C. Sutton, <i>Secretary</i> .....	Chicago

### SECTION ON SURGERY

George W. Post, <i>Chairman</i> .....	Chicago
B. V. McClanahan, <i>Secretary</i> .....	Galesburg

### SECTION ON EYE, EAR, NOSE AND THROAT

George S. Duntley, <i>Chairman</i> .....	Macomb
O. B. Nugent, <i>Secretary</i> .....	Chicago

### SECTION ON PUBLIC HEALTH AND HYGIENE

J. Howard Beard, <i>Chairman</i> .....	Urbana
Lloyd Arnold, <i>Secretary</i> .....	Chicago

### SECTION ON RADIOLOGY

Robert F. Arens, <i>Chairman</i> .....	Chicago
F. Flinn, <i>Secretary</i> .....	Decatur

### SECRETARIES' CONFERENCE

H. A. Felts, <i>President</i> .....	Marion
Elizabeth R. Miner, <i>Vice-President</i> ....	Macomb
C. D. Snively, <i>Secretary</i> .....	Ipava

### COMMITTEE ON ARRANGEMENTS

A. E. Walter, <i>General Chairman</i> ....	Springfield
Homer P. McNamara, <i>Secretary</i> ....	Springfield

## SPECIAL COMMITTEES

### RECEPTION

Don Deal	J. G. Meyer
George Stericker, Jr.	I. W. Metz
Henry Lutyens	T. F. Hill
A. W. Barker	D. G. Lockie

### ENTERTAINMENT

A. E. Walters	Harry Otten	H. P. McNamara
---------------	-------------	----------------

### INFORMATION

Harry Otten	David McCarthy
Harry H. Southwick	R. T. Clark
H. T. Morrison	George J. Mautz

### PRESIDENT'S DINNER

John R. Neal	S. E. Munson	J. E. Reisch
--------------	--------------	--------------

### PUBLICITY

John J. McShane	Geo. M. Harper
R. C. Cook	A. L. Stuttle

### MEETING PLACE

O. L. Zelle	W. P. Armstrong, Jr
	W. P. Levis

### SURGERY

Jas. A. Day	Chas. L. Patton
	C. W. Compton

### MEDICINE

N. Rosen	E. K. Lockwood
C. V. McMeen	T. D. Master
B. J. Kuly	E. F. Pearson
	Geo. H. Vernon

### EYE, EAR, NOSE AND THROAT

E. E. Hagler	C. P. Colby
J. F. Deal	A. L. Hagler
E. T. Blair	F. B. Jones
R. I. Bullard	E. A. Morris

### PUBLIC HEALTH AND HYGIENE

H. S. Houston	G. Koehler
R. K. Campbell	Grace S. Wightman
	R. H. Woodruff

### RADIOLOGY

Walter Bain	F. S. O'Hara
	L. M. Hilt

### FINANCE

Homer P. McNamara	J. R. Neal
	A. E. Walter

### REGISTRATION

P. L. Taylor	C. B. Stuart
N. H. Chestnut	B. W. Hole
	E. S. Spindel

## TRANSPORTATION

C. W. Milligan	Robert Flentje
J. C. Walters	J. R. Irwin

## EXHIBITS

A. C. Baxter	O. H. Diechmann
E. L. Bernard	H. L. Metcalf

## CONTACT

C. C. Copelan	Chas. F. Harman
Corwin Mayes	J. M. Salzman

## LADIES' ENTERTAINMENT

O. F. Maxon	Elizabeth B. Ball
H. H. Cole	Clara F. Holmburg

## ALUMNI

Corwin Mayes	L. D. Wright
J. A. DeFreitas	M. M. Bradley

## ADVISORY

C. A. Frazee	W. P. Armstrong, Sr.
Geo. Stericker, Sr.	W. A. Young

## FRATERNITY

D. I. Martin	Geo. Harvey
David E. Barker	M. B. Jelliffe

## GOLF

Fred Cowdin	R. I. Bullard
	D. C. Ditmore

## LADIES' GOLF

R. F. Herndon	Frank A. Evans
	Franklin Maurer

## VETERAN'S DINNER

R. D. Dugan	J. C. Jackman
H. B. Henkel	S. R. Magill
Stuart Broadwell	H. H. Tuttle

## SHOW

## COLORED RECEPTION

Robert H. Beverly	S. A. Ware
-------------------	------------

## PEDIATRICS

O. E. Ehrhardt	H. C. Blankenmeyer
----------------	--------------------

## INDUSTRIAL SURGERY

G. W. Staben	J. J. Donovan
D. J. Lewis	Henry Aschaner

## SECRETARIES' CONFERENCE

H. P. McNamara	W. W. Van Wormer
	E. A. Walsh

## CLINICS

J. A. Lindquist	G. C. Hunt
A. G. Hofferkamp	W. C. Martini

## ATTENDANCE

J. E. Reisch	Thomas W. Priest
J. C. McMillan	A. R. Trapp
Chas. McLaughlin	M. E. Rolens
Robert E. Smith	H. W. Sears
L. E. Orr	J. M. Shearl
George T. Palmer	C. W. Yeck

WOMAN'S AUXILIARY TO THE ILLINOIS STATE  
MEDICAL SOCIETY

## OFFICERS

Mrs. Solomon Jones, <i>President</i> .....	Danville
Mrs. Lucius Cole, <i>President-Elect</i> ..	River Forest
Mrs. H. I. Conn, <i>1st Vice-President</i> ...	Newman
Mrs. S. M. Goldberger, <i>2nd Vice-President</i>	
.....	Chicago
Mrs. A. H. Baugher, <i>3rd Vice-President</i> .	Chicago
Mrs. E. B. Coolley, <i>Corresponding Secretary</i>	
.....	Danville
Mrs. John A. Wolfer, <i>Recording Secretary</i>	
.....	Chicago
Mrs. F. P. Hammond, <i>Treasurer</i> .....	Chicago

## COUNCILORS

Mrs. D. J. Evans, 1st District.....	Aurora
Mrs. A. B. Middleton, 2nd District....	Pontiac
Mrs. N. M. Percy, 3rd District.....	Chicago
Mrs. G. H. Mundy, 3rd District.....	Chicago
Mrs. A. H. Brumback, 3rd District....	Chicago
Mrs. C. H. Anderson, 4th District..	East Moline
Mrs. H. B. Henkel, 5th District.....	Springfield
Mrs. Chas. D. Center, 6th District.....	Quincy
Mrs. John E. Black, 7th District.....	Centralia
Mrs. E. S. Allen, 8th District.....	Arcola
Mrs. E. W. Burroughs, 9th District..	Harrisburg
Mrs. I. L. Fonlon, 10th District..	East St. Louis
Mrs. E. R. Steen, 11th District.....	Joliet

## CHAIRMEN OF STANDING COMMITTEES

Organization—Mrs. Philip H. Kreuscher, Chi-	cago.
Press and Publicity—Mrs. J. P. Simonds, Chi-	cago.
Legislative—Mrs. Wm. D. Chapman, Silvis.	
Printing—Mrs. John R. Neal, Springfield.	
Convention—Mrs. H. B. Henkel, Springfield.	
Program—Mrs. E. P. Sloan, Bloomington.	
Revision—Mrs. E. W. Mueller, Chicago.	
Public Relations—Mrs. W. R. Cabbins, Chicago.	
Credentials and Registration—Mrs. Imas Rice,	Aurora.



Hygeia—Mrs. H. H. Hurd, East St. Louis.  
 Finance—Mrs. W. R. Rhodes, Toledo.  
 Archives—Mrs. Michael L. Mason, Chicago.  
 Hostess—Mrs. E. P. Sloan, Bloomington.

ADVISORY COMMITTEE FROM ILLINOIS STATE  
 MEDICAL SOCIETY

R. R. Ferguson, *Chairman*.....Chicago  
 Chas. J. Whalen.....Chicago  
 Chas. D. Center.....Quincy  
 John R. Neal.....Springfield  
 Harold M. Camp.....Monmouth

WOMAN'S AUXILIARY AND ALL VISITING LADIES  
 Woman's Registration, Knights of Columbus  
 Building

*Tuesday, May 15, 1934*

9:00 A. M.—Business meeting of Woman's Auxiliary.  
 1:00 P. M.—Luncheon for all ladies. (Place to be announced).  
 2:00 P. M.—Business meeting for Woman's Auxiliary.  
 4:30 P. M.—Tea for all visiting ladies at Governor's Mansion.  
 7:00 P. M.—Dinner and Bridge for all visiting ladies. (Place to be announced).

*Wednesday, May 16, 1934*

9:00 A. M.—Meeting of Woman's Auxiliary.  
 1:15 P. M.—President's Luncheon, Woman's Auxiliary, honoring Mrs. Solomon Jones, President, Woman's Auxiliary to the Illinois State Medical Society.  
 3:00 P. M.—Motor trip to Old Salem—early home of Abraham Lincoln, recently reconstructed by the State of Illinois. (For all visiting ladies).  
 7:00 P. M.—President's Dinner, honoring Dr. Philip H. Kreuscher, President, Illinois State Medical Society. To be held at Abraham Lincoln Hotel.  
 8:30 P. M.—President's Dance, or Bridge, as preferred.

A more complete report of the Ladies Entertainment Program will be published in the May ILLINOIS MEDICAL JOURNAL. All visiting ladies are cordially invited to attend all of the ladies functions.

VETERANS' DINNER

The annual dinner and meeting of the Veterans' Service Committee will be held at the Lealand Hotel on Tuesday evening, May 15, at 6:00 o'clock.

The program following the dinner will be in charge of F. O. Fredrickson, Chairman of the Committee.

PROGRAM

1. "Why the Medical Commission?"—T. B. Williamson, Department Surgeon, Department of Illinois, American Legion, Mt. Vernon.
2. "The Legion Program as It Affects Organized Medicine."—Hon. Edward Hayes, National Commander of the American Legion, Decatur. (By invitation).
3. "The American Medical Association—Its Duty to Its Members and to the Nation's Veterans of the World War."—Edward H. Cary, Past President of the American Medical Association, Chairman of the Committee on Legislation and Veterans Affairs, American Medical Association, Dallas, Texas. (By invitation).

All Medical Veterans of the Illinois State Medical Society, and all other interested members are cordially invited to attend this Dinner and Meeting. Tickets may be purchased from the Registration Desk, or from members of the Local Veterans' Committee.

FRACTURE DEMONSTRATIONS

Discussions concerning the common types of fractures and demonstrations of the popular methods of treatment, will be conducted at regular intervals throughout the meeting, and yet will not interfere with the General Sessions, and Section Programs.

These demonstrations will be conducted on Tuesday, from 8:00 a. m. to 1:00 p. m.; Wednesday, from 8:00 to 9:00 a. m.—12:00 to 1:00 and from 5:00 to 6:00 p. m. On Thursday, from 8:00 to 9:00 a. m.; then if desired, special demonstrations may be arranged for Thursday afternoon, while no section meetings are in progress.

Although this schedule may be changed slightly, and likewise the personnel of those

giving the demonstrations may be changed, we are giving same here in preliminary form.

1. Fractures of the pelvis—F. N. Cloyd, Danville.
2. A. Skull fractures and associated injuries—Harry E. Mock, Chicago.  
B. Fractures of cervical vertebrae—Harry E. Mock, Chicago.
3. Fractures of the shaft of the humerus—James H. Finch, Champaign.
4. Fractures into the knee joint—William R. Cubbins, Chicago.
5. A. Colles fracture—G. W. Staben, Springfield.  
B. Fracture of tibia and fibula not involving joints—G. W. Staben, Springfield.
6. Fractures of the shaft of the femur—James J. Callahan, Chicago.
7. A. Intertrochanteric fractures of the femur—Rudolph J. Mroz, Rockford.  
B. Nonunion of fractures—Rudolph J. Mroz, Rockford.
8. Fractures of carpal bones—Arthur H. Conley, Chicago.
9. Fractures about the ankle—George L. Apfelbach, Chicago.
10. A. Supracondylar fractures—Sidney H. Easton, Peoria.  
B. Fractures of fingers—Sidney H. Easton, Peoria.
11. Fractures of both bones of forearm in children—Daniel H. Levinthal, Chicago.
12. A. Fractures of the upper end of the humerus—Paul B. Magnuson, Chicago.  
B. Fractures of the elbow—Paul B. Magnuson, Chicago.
13. Compression fractures of the spine—Carlo S. Scuderi, Chicago.
14. Fractures of the hip—Philip H. Kreuscher, Chicago.

Shadow boxes to show interesting fracture films, and lanterns for showing pictures will be available for each demonstration.

#### PEDIATRICIANS' MEETING

Maurice L. Blatt, *Chairman*.....Chicago  
W. L. Crawford, *Vice-Chairman*.....Rockford  
John VonAchen, *Secretary*.....Peoria

*Tuesday Morning, May 15, 1934*

KNIGHT'S OF COLUMBUS BUILDING

- 9:00 "Diagnosis and Treatment of Infection in Uro-Genital Tract in Childhood."—Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago.
- 9:30—"Fundamentals of Infant Feeding."—Clifford Grulee, Professor of Diseases of Children, Rush Medical College, Chicago.
- 10:00—"Diagnosis and Treatment of Rheumatic Infections in Childhood."—Robert Black, Professor of Diseases of Children, Loyola University, Chicago.
- 10:30—"Care and Feeding of the Premature Infant."—Julius H. Hess, Professor of Diseases of Children, University of Illinois, Chicago.
- 11:00 "The Common Colds in Infancy and Childhood."—Joseph Brennemann, Professor of Diseases of Children, University of Chicago, Chicago.

In addition to the above scheduled program for Pediatricians, papers have been scheduled on Pediatrics, in other sections, which can be found in the Section Programs.

All physicians interested in Pediatrics are urged to attend this special program.

#### SECRETARIES' CONFERENCE

H. A. Felts, *President*.....Marion  
Elizabeth R. Miner, *Vice-President*....Macomb  
C. D. Snively, *Secretary*.....Ipava

*Tuesday Morning, May 15, 1934*

- 10:00—"Heart Disease."—Frank J. Jirka, *Director*, Illinois Department of Public Health, Springfield.

The problem of heart disease is approached from the statistical standpoint, which shows that over one-fifth of all mortality in Illinois is now attributed to heart impairment and that the trend is still sharply upward. Data are analyzed so as to illustrate the character of fatal impairments and the etiology of causes as well as the ages in which increases and decreases in mortality have taken place. A program for controlling heart disease, especially among people under sixty years of age, is suggested. Evidence that the problem of heart impairment may be expected to involve a growing and perhaps the bigger single field in the practice of medicine is presented. The paper is illustrated with lantern slides.



Discussion opened by Andy Hall, *Councilor*, Ninth District, Mt. Vernon.

10:30—"In the Red."—Chas. D. Center, *President-Elect*, Illinois State Medical Society, Quincy.

1. There are many antagonistic forces operating against the medical profession today.

2. The reason for some of these conditions seems to lie at the door of the doctor.

3. Under four general headings there is being made an attempt in this paper to elucidate and to begin corrective measures for these conditions.

Discussion opened by Harold M. Camp, *Secretary*, Illinois State Medical Society, Monmouth.

11:00—"What Is Right with the Medical Profession?"—Miss Jean McArthur, *Secretary*, Educational Committee, Illinois State Medical Society, Chicago.

We hear on all sides about the many things that are wrong with the medical profession. It seems time for medicine to come forth and defend its position—show the public that there are many things about the profession which are altogether right and, if necessary, expose those who would destroy a code of ethics that has withstood the test of time and experience.

Discussion opened by Donald W. Killinger, *Secretary*, Will-Grundy County Medical Society, Joliet.

11:30—"Vice Versa."—C. G. Farnum, *First Vice-President* Illinois State Medical Society, Peoria.

A jocular dissertation in prose and verse on the merrier side of life, written for the sole purpose of making us forget for fifteen minutes the depression, delinquent accounts, state medicine, unfair competition, sclerotic arteries, etc.

Discussion opened by Thomas P. Foley, *Secretary*, Chicago Medical Society, Chicago.

#### MEETINGS OF THE HOUSE OF DELEGATES

*Tuesday Afternoon, May 15, 1934*

3:00—First meeting of the House of Delegates called to order by the President Philip H. Kreuscher, for reports of Officers, Councilors, Chairmen of Committees, Introduction of Resolutions, and for the transaction of other business which may come before the House.

*Thursday Morning, May 17, 1934*

8:30—Second meeting of the House of Delegates called to order by the President, for election of officers, members of the Council, Committees, and Delegates to the American Medical Association.

Reports of Resolutions Committee, and action on the resolutions, and for the transaction of other business that may come before the House.

Credentials Committee will meet thirty minutes before each meeting of the House of Delegates, to receive and approve credentials of regularly elected delegates from component societies, so that they may be properly seated.

#### GENERAL SESSIONS

*Tuesday Afternoon, May 15, 1934*

KNIGHTS OF COLUMBUS BUILDING

1:00—Eighty-Fourth Annual Meeting of the Illinois State Medical Society officially opened by the President, Dr. Philip H. Kreuscher, Chicago.

1. Invocation.
2. Addresses of Welcome.
3. Report of Chairman, Committee on Arrangements, A. E. Walters, Springfield.
4. Address—"Some Problems in Government." Hon. J. M. Braude, Associate Director, Department of Finance, State of Illinois, Springfield.
5. Adjournment for Oration in Medicine.

1:45—Oration in Medicine. (Subject to be announced)—Walter L. Bierring, President-Elect American Medical Association, Des Moines, Iowa. (By invitation).

*Wednesday Morning, May 16, 1934*

11:00—Oration in Surgery—"Ten Years of Progress in the Treatment of Fractures."—Frederic J. Cotton, Boston, Massachusetts. (By invitation.)

*Wednesday Afternoon, May 16, 1934*

1:30—President's Address—"The Doctor and His Community."—Philip H. Kreuscher, President, Illinois State Medical Society, Chicago.

*Thursday Morning May 18, 1934*

Induction of the President-Elect.

Immediately following the close of the last meeting of the House of Delegates, Dr. Charles

D. Center, President-Elect, will be inducted into the office of President of the Illinois State Medical Society, by the retiring President. All members and guests are urged to attend this important function.

#### PRESIDENT'S DINNER

*Wednesday Evening, May 16, 1934*

According to the established custom of years. Wednesday evening is devoted to the honoring of our President, Philip H. Kreuscher. The President's Dinner will be held at the Abraham Lincoln Hotel, at 6:30 p. m. Dr. John R. Neal, Immediate Past President, will act as Toastmaster.

All Past Presidents of the Illinois State Medical Society are honored guests of the Society at this function. They will not be called on for speeches, and the pleasures of the evening will not be marred by long speeches from anyone.

Immediately following the Dinner the President's Ball, informal, will be held with a real orchestra furnishing the music. Those not desiring to dance, will find plenty of bridge tables available for the lovers of that game, with suitable prizes awarded to the winners.

It is hoped that every member in attendance at the Annual Meeting will attend the President's Dinner. Tickets at a reasonable rate may be procured from the Registration Desk, or from members of the local Committee.

#### SECTION PROGRAMS

##### SECTION OF MEDICINE

Richard F. Herndon, *Chairman*.....Springfield  
Don C. Sutton, *Secretary*.....Chicago

*Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Public Health and Hygiene, and Radiology.

##### SYMPOSIUM ON PNEUMONOCONIOSIS

2:45—

1. "The Function of the State Department of Health in the Control of Pneumonoconiosis."—Frank J. Jirka, Director, Springfield.

3:05—

2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumonoconiosis."—C. O. Sappington, Chicago.

3:25—

3. "The Relative Hazards of Different Types of Dust."—R. R. Sayres, Washington, D. C.

3:45—

4. "Clinical Findings in Pneumonoconiosis."—Jerome R. Head, Chicago.

4:15—

5. "Pathology in Pneumonoconiosis."—Richard H. Jaffe, Chicago.

*Wednesday Morning, May 16, 1934*

- 8:30—"Psychiatry's Place in Medicine."—S. N. Clark, Jacksonville.

Similarities and dissimilarities of Psychiatry to other branches of medicine. Dangers of extravagant claims. Impossibility of adequate understanding of mental disorders except from medical viewpoint. Contributions of Psychiatry to Medicine.

Discussion opened by William H. Holmes, Chicago.

- 8:50—"The Early Diagnosis of Tuberculosis."—John E. McCorvie, Peoria.

- 9:10—"Non-Parasitic Cystic Disease of the Lungs."—Emmet F. Pearson, Springfield.

Cystic disease of the lungs may cause clinical syndromes of the widest variety. It may simulate clinically and roentgenologically spontaneous pneumothorax, tuberculosis, bronchiectasis, encapsulated empyema, and other chronic lung diseases. Eight cases of different types of lung cysts which were studied in the chest service of Barnes Hospital, St. Louis, are originally reported. A review of the 172 cases which have been reported in the world literature is given. Important features of diagnosis and treatment are demonstrated by lantern slides.

- Discussion opened by Maxim Pollak, Peoria.
- 9:30—"Survey of Allergic Diseases in Childhood."—W. L. Crawford, Rockford.

What is allergy? What diseases are allergic? What ones are important in childhood? Characteristics by which an allergic individual differs from others. Historical "high-lights" of asthma, hay fever, skin tests. Special emphasis on diagnosis, treatment and prognosis. Examples of success and failure in treating asthma, hay fever, urticaria and eczema from allergic standpoint. Should eczema, especially infantile eczema, be approached from the allergic viewpoint? Illustrated address.

Discussion opened by Leon Unger, and I. Harrison Tumpeer, Chicago.

- 9:50—"Allergy in General Practice."—Samuel M. Feinberg, Chicago.



The application of the principles of allergy in medicine has become useful in so many specialties and general practice that all practitioners must assume an interest in it. One hundred specialists in allergy cannot take care of several million allergic patients. Since the average medical man will have to handle the average case of allergy, it behooves him to interest himself in the subject and to master its fundamentals.

Discussion opened by I. Pilot, Chicago.

10:10—"Benign Melliturias."—Thos D. Masters, Springfield.

A reducing substance in the urine is usually due to diabetes, but occasionally other conditions may be responsible. Until complete diagnostic testout is done, the mellituria must be considered to be potentially serious and due to diabetes mellitus. A complete testout must include a differential of the other causes of a reducing substance in the urine. These latter are discussed in this paper. Special consideration is given renal glycosuria which seems to present a suggestive symptomatology and characteristic findings not widely recognized by the profession.

10:30—"Pancreatic Dysfunction."—B. Markowitz, Bloomington.

Pancreatic dysfunction includes, as well as diabetes mellitus, its opposite called hyper-insulinism. A review of the literature shows that this condition may be as frequent an occurrence as diabetes. A typical hyper-insulinism case is reported which runs a prolonged course with various diagnoses and no improvement until hypo-glycemia is found by blood sugar estimation. Diabetes and hyper-insulinism have been observed in the same patient indicating a common origin in secretory disorders of the pancreas.

Discussion opened by Sidney A. Portis, Chicago.

11:00—Adjournment for Oration in Surgery.

### *Wednesday Afternoon, May 16, 1934*

2:30—"The Value of Symptoms."—Chairman's Address. Richard F. Herndon, Springfield.

A discussion of the importance and practical value of the purely subjective phenomena of disease.

2:50—"The Role of the Hypophysis in Thyroid Syndromes."—Hugo R. Rony, Chicago.

Research shows a thyrotropic hormone in the anterior lobe of the hypophysis which influences the size, structure and functional activity of the thyroid. The application of this knowledge to myxedema, cretinism and hyperthyroidism is discussed. Case reports. Lantern demonstration.

3:10—"The Relation Between the Preoperative Condition of the Patient and Operative Mortality in Exophthalmic Goiter."—

W. O. Thompson, S. G. Taylor, III, and Karl A. Meyer, Chicago.

The most important factor in determining the risk of thyroidectomy for exophthalmic goiter is the preoperative condition of the patient. Great attention should be paid not only to the response of iodine, but also to body weight and emotional instability. By applying this principle to the treatment of exophthalmic goiter in a large municipal, it has been possible to reduce the mortality from over 10 per cent. to between 2 and 3 per cent.

Discussion opened by Frederick Tice, Chicago.

3:30—"Cardiac Functional Diagnosis."—Fred M. Meixner, Peoria.

Factors determining adequacy of circulation. Functional tests for efficiency of heart. Diagnostic tests, radiography and cardiography. Respiratory tests—lowered oxygen tension and vital capacity tests. Exercise tests to estimate function. Other methods, such as Katzenstein's, Sahli, Barringer. Functional conditions producing cardiac decompensation. Function of heart muscle complicated, and efficiency difficult to estimate. Value of subjective symptoms with respect to environment. Functional and organic disorders differ but are related. Differentiate neurocardial from myocardial lesions. Conclusions.

Discussion opened by Don C. Sutton, Chicago.

3:50—"Hypertensive Heart Disease."—Robert S. Berghoff, Chicago.

Not a distinctive type of heart disease. Most frequently associated with senile hearts. Etiology and mechanism a voluminous subject. Earliest subjective manifestations, dyspnea, heart consciousness and pain. Incompetency of right ventricle ushers in edema, anasarca, ascites, hydrothorax. The mechanism of distal symptoms is intriguing. Physical signs appear early and are characteristic. Configuration of heart typical. Orthodiagram is invaluable. Aortic changes of diagnostic importance. Diagnosis simple, degree of heart muscle involvement, complex. Diagnostic and prognostic values of x-ray and electrocardiograph. Treatment of hypertensive heart disease.

Discussion opened by John R. Vonachen, Peoria.

4:10—"Gastrointestinal Obstruction Simulating Malignancy."—Frank Deneen, Bloomington.

Discussion opened by Lowell Snorf, Chicago.

4:30—"Agranulocytosis."—Frederic W. Bureky, Evanston.

This paper is essentially practical in character, reviewing briefly the major advances which have been made during the past year in the study of agranulocytosis. It presents the treatment of the disease in sufficient detail so that the physician may know exactly

how to procure, prepare, and administer those therapeutic agents which are now considered the best.

Discussion opened by Tom Galloway, Chicago.

5:10—"Membranous Non-Diphtheritic Infections of the Lower Respiratory Tract in Children."—Walter M. Whittaker and Walter Stevenson, Quincy.

This paper presents a review of the literature dealing with a fulminating form of laryngo-tracheobronchitis with a presentation of the clinical course, laryngoscopic and bronchoscopic findings, and a resume of the treatment in such conditions. The paper attempts to stress the importance of an early and differential diagnosis, since many of these cases have, in the past, probably been considered cases of laryngeal diphtheria. Several brief case histories are appended, giving the outstanding clinical characteristics in this condition, with a rather detailed report of one severe fatal case with a terminal bacillary pyocyanus septicemia.

Discussion opened by Walter Stevenson, Quincy.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Surgery, Eye, Ear, Nose and Throat, Public Health and Hygiene and Radiology.

8:30-12:00—1. "Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

2. "Heart Disease; Past, Present and Future."—W. A. Evans, Chicago.

3. "Treatment of Chronic Typhoid Carriers." Lars Gulbrandsen.

Discussion opened by Lloyd Arnold, Chicago.

4. "The Present Status of Ocular Surgery."—Motion picture demonstration. Oscar B. Nugent, Chicago.

5. "Fractures of the Nose."—Motion picture demonstration. Austin A. Hayden, Chicago.

6. "Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

#### SECTION ON SURGERY

George W. Post, *Chairman*. . . . . Chicago  
B. V. McClanahan, *Secretary*. . . . . Galesburg

#### *Tuesday Afternoon, May 15, 1934*

2:30—"A Simplified Method of Internal Fixation of Fractures and the Use of Horn

as a Fixation Material."—Edson B. Fowler, Evanston.

3:00—"Fractures of the Elbow."—S. H. Easton, Peoria.

3:30—"The Treatment of Fractures of the Lower Limb by Fixation Traction."—Charles Papik, Chicago.

4:00—"Rehabilitation of the Crippled Child from the Standpoint of Orthopedic Surgery."—Fremont A. Chandler, Chicago.

4:30—"Riedel's Struma."—C. H. Tearnan of Decatur.

5:00—"Obstetrics as a Surgical Specialty; Four Illustrative Case Reports."—John J. Gill, Chicago.

#### *Wednesday Morning, May 16, 1934*

8:30—"Possible Means of Reducing Mortality in Appendicitis."—H. P. Saunders, Chicago.

9:00—"Some Facts About Blood Transfusions."—Frank J. Otis, Moline.

9:30—"Resumé of a Ten-Year Study of the Treatment of Uterine Fibroids."—Ralph A. Reis, Chicago.

10:00—"The Principles of the Surgical Treatment of the Jaundiced Patient."—John A. Wolfer, Chicago.

10:30—"Sacro-Coxalgia."—Joseph A. Allegretti, Chicago.

11:00—Adjournment for Oration in Surgery.

#### *Wednesday Afternoon, May 16, 1934*

2:30—"Spinal Anesthesia."—W. L. Waner, Evanston.

3:00—"Immediate Treatment of Compound Injuries."—Sumner L. Koch, Chicago.

3:30—"Acute Intestinal Obstruction; Its Early Recognition."—Earl I. Greene, Chicago.

4:00—"Collapse Therapy of Tuberculosis."—Minas Joannides, Chicago.

4:30—"Importance of Teamwork in the Diagnosis and Treatment of Cancer."—E. G. C. Williams, Danville.

5:00—"Pyelocystitis."—Clarence C. Saelhof, Chicago.



*Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Eye, Ear, Nose and Throat, Public Health and Hygiene, and Radiology.

8:30-12:00—1. "Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

2. "Heart Disease; Past, Present and Future."—W. A. Evans, Chicago.

3. "Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen.

Discussion opened by Lloyd Arnold, Chicago.

4. "The Present Status of Ocular Surgery."—Motion picture demonstration. Oscar B. Nugent, Chicago.

5. "Fractures of the Nose."—Motion picture demonstration. Austin A. Hayden, Chicago.

6. "Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

---

SECTION ON EYE, EAR, NOSE AND THROAT

---

George S. Duntley, *Chairman*.....Macomb

Oscar B. Nugent, *Secretary*.....Chicago

---

*Tuesday Afternoon, May 15, 1934*

3:00—"The Efficiency of Non-Operative Treatment of Strabismus, Including Orthoptic Training."—J. L. Bressler and Katherine Chapman, Chicago.

This clinic was organized early in September at the suggestion of Dr. Thomas D. Allen. The opportunity was given to develop it. The results have been gratifying. In the non-operative treatment we have four definite therapeutic measures at our disposal.

1. Optical correction.
2. Occlusion of fixing eye.
3. Atropine of the fixing eye.
4. Training fusion sense.

Conclusions:

1. The necessity for surgery in squint cases will be greatly reduced.

2. Where surgery is necessary or has been done the end results with Orthoptic training will be superior to surgery alone.

3. Treatment of amblyopia before surgery will assure better results. In conclusion we would like to voice a plea to educate the public and general practitioner to the fact that all strabismus cases should receive treatment as early as possible after the appearance of the deviation.

Discussion opened by Thomas D. Allen, Chicago.

3:30—"The Treatment of Myopia by Base in Prisms."—Lantern Slide demonstration. P. Abernathy Graves and Oscar B. Nugent, Chicago.

There is a resume of the literature giving a brief outline of the classification of myopia, its cause and treatment. Early treatment of the various types of myopia, especially the pseudo myopia, and school myopia; method of handling and treatment of same, stressing the use of "base in" prisms in this connection. The information of proper eye habits in early childhood is important in these cases. Presentation of case histories.

Discussion opened by Otto Wolfe, Marshalltown, Iowa. (By invitation). C. B. Voight, Mattoon.

4:00—"Incipient Cataract."—Jesse H. Roth and C. W. Geiger, Kankakee.

Very many incipient cataracts which we cannot readily account for in any other manner are relegated to the classification of senile cataracts. Our management of such lenticular opacities has been more or less indifferent. In a review of approximately 1400 cataracts observed over a period of 20 years, relatively few have come to the necessity of surgery. The percentage of ocular pathology, complicating incipient cataracts, has been amazingly great. By close cooperation with the internist and routine observation many of these complications have disappeared and the lens opacities have become stationary. Our patients deserve to know the true status of their condition and should be given every opportunity of having the surgical necessity postponed. If surgery seems imminent their general condition should be maintained so that the operation will meet with not only our expectations but with the patient's as well.

Discussion opened by Harry W. Woodruff, Joliet.

4:30—"The Management of Allergic Vasomotor Rhinitis."—Michael Zeller, Chicago. (By invitation.)

As a means of differential diagnosis, the history of other allergic manifestations in the patient and his family, laboratory findings of blood and nasal smears, skin tests and therapeutic tests will usually rule out other conditions. Scratch tests are frequently negative but intradermal tests may lead to the diagnosis. All positive tests should be demonstrated clinically before being accepted as an etiologic factor. Negative tests do not rule out allergy. Food management often leads to relief of symptoms even without positive skin tests. (Illustrated with lantern slides).

Discussion opened by Frank J. Novak, Jr., Chicago.

5:00—"Osteomyelitis of the Frontal Bone in Frontal Sinus Infections."—M. A. Glatt, Chicago.

In the treatment of acute frontal sinus infections we are at times confronted with a clinical picture indicating a spread of the infection beyond the mucosa of the sinus. A dilemma which then presents itself, due to our apprehension of radical operative measures in an acute process. Two cases of osteomyelitis in acute frontal sinus infections are reported. An analogy is made with the signs of surgical mastoiditis, attempting therewith to place the treatment of this entity on a more rational basis.

Discussion opened by C. F. Yerger and J. R. Lindsay, Chicago.

6:15-7:45—Banquet (informal) and entertainment. Definite plans to be announced.

*Wednesday Morning, May 16, 1934*

8:30—"Cysts of the Epiglottis."—George Woodruff, Joliet.

A review of the recent literature giving the cause and treatment of epiglottal cysts. A plan of simple removal of cysts from the epiglottis as used by the author, is given.

Discussion opened by H. L. Ford, Champaign.  
9:00—"Surgical Relief of Painful Deglutition in Laryngeal Tuberculosis."—Louis Savitt and Simon Soboroff, Chicago.

This report is intended to point out briefly that surgical measures have been made available, which are so essential to the treatment of the advanced tuberculous larynx, especially where the severely painful throat makes swallowing so difficult a task and interferes with the patient's comfort and rest, that is so vitally necessary.

The authors have minutely described the anatomy of the recurrent laryngeal nerve, the technic used in blocking the nerve with alcohol and the method of resection of the internal branch of the superior laryngeal nerve. In conclusion the authors feel that their method is simple, rapid and absolutely safe, and state that resection of the superior laryngeal nerve in the advanced cases of laryngeal tuberculosis affords enough relief to a vast number of patients to warrant general consideration and sympathetic use.

Discussion opened by Francis L. Lederer, Chicago.

9:30—"Rationalization in Therapy of Laryngeal Tuberculosis."—Francis L. Lederer, and Louis Zolo Fishman, Chicago.

1. Stress is placed first on the origin of this specific form of laryngeal pathology from a primary pulmonary tuberculosis, it being recalled, however, that laryngeal complications, when they occur in these tuberculous patients, are not necessarily specific in character.

2. Equal importance is attached to concise clinical and histo-pathological interpretations of the pulmonary and laryngeal states.

3. Finally, precise localization of the laryngeal lesion anatomically is emphasized with reference to consequent dysfunction of local physiological acts and subsequent local and general ill effects on the patient. These three groups of factors are discussed as prerequisites to the formation of a basic equilateral triangle for comprehensive diagnosis, it follows that only upon such a complete and logical foundation can the multitudinous types of therapy be pyramided toward success in an application to the almost equally great number of tuberculous manifestations within the laryngeal structure. The conclusion becomes obvious "that any departure from the above principles may be stigmatized as empirical if not entirely unsound."

Discussion opened by Walter Stevenson, Quincy.

10:00—"The Modern Conception of Cancer of the Larynx."—M. Reese Guttman, Chicago.

This will deal with histologic study of malignant epithelial neoplasms, the relation of their microscopic structure to the type of therapy to be employed and the extent of surgery indicated. Some newer aids in the diagnosis and treatment will be briefly described.

Discussion opened by H. L. Ford, Champaign; Francis L. Lederer, Chicago.

10:30—"The Rehabilitation of the Voice After Laryngectomy."—Movietone demonstration. Joseph C. Beck, Chicago.

1. A discussion of the various methods of voice culture and training after laryngectomy will be presented.

2. Demonstration of a patient.

3. Electric Transcription record.

4. Movietone demonstration.

Discussion opened by Frank J. Novak, Jr., Chicago.

11:00—Adjournment for Oration in Surgery.

*Wednesday Afternoon, May 16, 1934*

2:30—"Preparedness of the General Practitioner Relative to First Aid in Acid and Alkali Injuries of the Eye."—A. B. Middleton, Pontiac.

Very few, if any, general practitioners have solutions made up ready for use in case an acid or alkali eye case comes in unexpectedly (and I am sorry to say many eye doctors are in the same boat). Today when batteries, auto, radio, etc., are being worked upon by amateurs, many acid burns occur. Ammonia pipes in refrigeration and cooling plants burst when least expected. Many physicians cannot remember in the first moment what to use as a neutralizing agent and if so, may not have it handy, and so while procuring something to use the burn in the eye is becoming deeper



and deeper. It is suggested that every doctor spend about fifty cents and procure for his shelf lime water, 10 per cent. bicarbonate of soda, diluted acetic acid, and 2 per cent. ammonia chloride—all in a convenient place, properly labeled, with directions so that the office assistant can begin using them until the doctor arrives, if he is out, and thus many eyes would be saved in this state every year.

Discussion opened by D. F. Henderson, Bloomington.

3:00—"Treatment of Ulcers of the Cornea."—C. F. Yerger, Chicago.

1. Clinical types of corneal ulcers.
2. Management of superficial or deep and progressive types.

3. Non-operative and operative treatment.
4. Complications and sequelae.

Discussion opened by Walter Stevenson, Quincy.

3:30—"Retinitis Pigmentosa Without Hereditary or Familial Stigmata."—Lantern slide demonstration. Richard A. Perritt, Chicago.

A review of the literature, so far as I know, reveals that this is the youngest case of retinitis pigmentosa as yet recorded, having been found in a girl of six. Hereditary and familial stigmata have been hunted for carefully but have not been found. A geneological tree is included. The youthful unfortunate prompts me to ask, "Should not a system be instituted making it obligatory for ophthalmologists to report to the Department of Health and statistics all cases of ophthalmic disease, the hereditary transmission of which is now generally recognized, thereby making this a sound basis for study and final disposition to the time honored questions to whether or not they are familial hereditary or consanguinous, or which factor is primary and which is secondary, and whether the propagation of these diseases should be curtailed."

Discussion opened by Leo L. Mayer, Chicago.

4:00—"Surgical Drainage in Glaucoma."—Michael Goldenburg, Chicago.

The surgical procedure to be used in the various types and stages of glaucoma is at times important, but more important is what we are attempting to accomplish by this or that technic. A summary of all the operations devised for this purpose may be divided into two distinct classes; namely, those that aid to reopen the normal avenues of fluid escape and those that attempt to establish drainage by artificial channels.

Discussion opened by Harry W. Woodruff, Joliet.

4:30—"The Surgical Treatment of Retinal Detachment."—Samuel J. Meyer, Chicago.

In enumerating the various methods of treatment for detachment of the retina, Gonin must be given the credit for again making us surgically minded in the solution of this formerly hopeless problem. His galvano-puncture paved the way for numerous modifications such as the chemical cauterization of Guist and Lindner, which because of the difficulty in technic has not received the proper attention it deserves, and the various uses of diathermy as advocated by Weve and Larsson, with its more simple technic resulting in delicate but secure adhesions.

Discussion opened by Harry S. Gradle, Chicago; Joseph F. Duane, Peoria.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Public Health and Hygiene, and Radiology.

8:30-12:00—1. "Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

2. "Heart Disease; Past, Present and Future."—W. A. Evans, Chicago.

3. "Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen.

Discussion opened by Lloyd Arnold, Chicago.

4. "The Present Status of Ocular Surgery."—Motion picture demonstration. Oscar B. Nugent, Chicago.

5. "Fractures of the Nose."—Motion picture demonstration. Austin A. Hayden, Chicago.

6. "Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

#### SECTION ON PUBLIC HEALTH AND HYGIENE

J. Howard Beard, *Chairman*. . . . . Urbana  
Lloyd Arnold, *Secretary*. . . . . Chicago

#### *Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Medicine and Radiology.

#### SYMPOSIUM ON PNEUMONOCONIOSIS

2:45—1. "The Function of the State Department of Health in the Control of Pneumoconiosis."—Frank J. Jirka, Director, Springfield.

3:05—2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumoconiosis."—C. O. Sappington, Chicago.

3:25—3. "The Relative Hazards of Different Types of Dust."—R. R. Sayres, Washington, D. C.

3:45—4. "Clinical Findings in Pneumoconiosis."—Jerome R. Head, Chicago.

4:15—5. "Pathology in Pneumoconiosis."—Richard H. Jaffe, Chicago.

---

*Wednesday Morning, May 16, 1934*

9:00—"Legal Medicine."—S. A. Levison and C. W. Muehlberger, Chicago.

Discussion opened by M. G. Bohrod, Peoria.

9:25—"Typhoid Fever Situation in Illinois."—B. K. Richardson, Springfield.

Discussion opened by I. D. Rawlings, Chicago.

9:50—"Rheumatic Heart Disease in School Children."—Ray E. Logan, Galena.

Discussion opened by Gerald Cline, Bloomington.

10:15—"Dark Field Diagnosis of Infectious Syphilis."—H. E. McDaniels.

Discussion opened by Andy Hall, Mt. Vernon.

11:00—Adjournment for Oration in Surgery.

*Wednesday Afternoon, May 16, 1934*

2:30—"Methods and Results of Nutrition Work in the Public Schools."—Gottfried Koehler, Springfield.

Discussion opened by J. H. Pollard, Evanston.

2:55—"The Control of Undulant Fever for the Veterinarian Viewpoint."—W. H. Welch.

Discussion opened by E. H. Marquardt.

3:20—"Diphtheria Immunization in Private Practice."—King Woodward, Rockford.

Discussion opened by Archibald Hoyne, Chicago.

3:45—"Visual Education."—Tom Jones, Chicago.

Discussion opened by B. K. Richardson, Springfield.

4:10—"Malignant Tertian Malaria, Report of a Small Epidemic."—H. J. Ireland, and M. G. Bohrod.

Discussion opened by Lloyd Arnold.

---

*Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Eye, Ear, Nose and Throat, and Radiology.

8:30-12:00—1. "Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

2. "Heart Disease; Past, Present and Future."—W. A. Evans, Chicago.

3. "Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen.

Discussion opened by Lloyd Arnold, Chicago.

4. "The Present Status of Ocular Surgery."—Motion picture demonstration. Oscar B. Nugent, Chicago.

5. "Fractures of the Nose."—Motion picture demonstration. Austin A. Hayden, Chicago.

6. "Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

---

SECTION ON RADIOLOGY

Robert A. Arens, *Chairman*. . . . . Chicago  
F. Flinn, *Secretary*. . . . . Decatur

---

*Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Medicine, and Public Health and Hygiene.

---

SYMPOSIUM ON PNEUMOCONIOSIS

2:45—1. "The Function of the State Department of Health in the Control of Pneumoconiosis."—Frank J. Jirka, Director, Springfield.

3:05—2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumoconiosis."—C. O. Sappington, Chicago.

3:25—3. "The Relative Hazards of Different Types of Dust."—R. R. Sayres, Washington, D. C.

3:45—4. "Clinical Findings in Pneumoconiosis."—Jerome R. Head, Chicago.

4:15—5. "Pathology in Pneumoconiosis."—Richard H. Jaffe, Chicago.

---

*Wednesday Morning, May 16, 1934*

8:30—Chairman's Address. Robert A. Arens, Chicago.

9:00—"Present Day Tendencies in Radiation Therapy, with a Discussion of the Questionable Values of Increased Voltage."—Roswell T. Pettit, Ottawa.



It is the purpose in this discussion to point out the possible fallacy of increased voltage above 200,000 kilovolts. There is much to be gained as far as depth dose, penetration and shortening of the wave length by the increasing of the patient target distance and by increasing filtration. By these methods depth dose can be increased as satisfactorily as by increasing the voltage and at decidedly less expense. All of the experimental evidence at hand would indicate that effective radiation, whether it be from x-rays of various wave lengths or from the gamma rays of radium of various wave lengths depends not upon the degree of penetration but rather by absorption. As yet no specific biologic effect of shorter wave lengths has been demonstrated. In fact, all of the evidence points against there being a specific biologic reaction dependent upon wave length.

Discussion opened by Robert A. Arens, Chicago; Walter G. Bain, Springfield.

9:30—"Clinical Values of X-Ray of the Urological Tract of Childhood."—John R. Vonachen, Peoria.

Necessity for cooperation between Pediatrician, Urologist, and Roentgenologist. Frequency of occurrence of pathology in Juvenile urinary tract. Type of pathology similar to that found in the adult. Diagnosis impossible without the aid of Roentgenograms. Common occurrence of anomalies and their role in the production of symptoms. Treatment directed to the correction of the underlying pathology.

Discussion opened by E. L. Jenkinson, Chicago; L. M. Hilt, Springfield.

10:00—"The Aid of the X-Ray in the Diagnosis of Breast Tumors."—I. H. Lockwood, Kansas City, Missouri.

Roentgenograms may establish the presence or absence of a mass often before the disease is clinically apparent. It may define its mammary or axillary extensions; reveal both benign and neoplastic changes and the transition of a benign into a malignant lesion; depict those changes characteristic of the spread of carcinoma along the connective tissue septa; offers a permanent record of the findings and is a means of serial study of the changes in the breast.

Discussion opened by B. H. Orndoff, Chicago; Vitto Whitting, Champaign.

10:30—"X-Ray and Radium Treatment of Cancer of the Breast."—Gentz Perry, Evans-ton. (Technique illustrated with motion picture films.)

Discussion opened by B. C. Cushway, Chicago; Henry L. Grote, Bloomington.

11:00—Adjournment for Oration in Surgery.

*Wednesday Afternoon, May 16, 1934*

2:30—"Radiotherapy and Electro-Surgery in the Treatment of Cancer of the Breast."—Benjamin H. Orndoff, Chicago.

1. Preoperative radiotherapy is advised in all cases of malignancy of the breast.

2. Breast surgery in malignancy is a field in which only electro-surgery should be instituted.

3. Post-operative radiotherapy is advised in all cases, but the technic varies in respect to the operative work done and the character of the malignant involvement.

4. Cases where surgical intervention is undesirable are becoming rare, but there is a small group in this class where primary involvement has extended to a point where only palliative treatment by radiotherapy is indicated.

Discussion opened by Perry B. Goodwin, Peoria; M. J. Hubeny, Chicago.

3:00—"Radiation Therapy of Gas Bacillus Infection."—J. J. Faust, Decatur.

Report on treating cases with gas gangrene bacillus by x-ray therapy. The technic used is within the limits of most small radiographic units. The cases are discussed in detail, including other treatment.

Discussion opened by I. S. Trostler, Chicago; J. H. Finch, Champaign.

3:30—"Bone Metastases from Malignancy of the Prostate and Roentgen Study of the Various Types."—Harry Olin, Chicago.

Discussion opened by Fred S. O'Hara, Springfield; M. I. Kaplan, Chicago.

4:00—"A Modified Technique for Suspected Gall Bladder Disease."—Adolph Hartung, Chicago.

It is intended to review briefly the more or less standard procedures in vogue at present and describe the modification suggested. This consists essentially of a combination of the Graham-Cole test with a fat and an opaque meal. Its advantages are to be discussed and series of cases in which the findings have been checked operatively are to serve as a basis for recommending the method.

Discussion opened by Ivan Brouse, Jacksonville; David Beilin, Chicago.

4:30—"Chronic Cicatrizing Enteritis." (Regional Ileitis). B. C. Cushway, Chicago.

A lesion presenting a specific clinical entity with definite pathology and symptomatology. A type of tumor which at operation simulates malignancy very closely, but which is really of an inflammatory nature. The condition has been definitely recognized as not being carcinoma, lymphocarcinoma, Hodgkin's Disease, Tuberculosis or diverticulitis. The condition is char-

acterized by a chronic cicatrizing inflammation of the wall of the bowel. There is a resulting stenosis of the bowel lumen with an occasional fistula formation and usually a tumor mass in the right lower quadrant. This condition is of interest to the radiologist because of the difficulty in differentiating the filling defect from malignancy or tuberculosis.

Discussion opened by Fred H. Decker, Chicago; Harry Olin, Chicago.

5:00—"The Role of the X-Ray in Industrial Hygiene."—Paul Dick, Chicago.

On account of the tendency of so many damage suits against industry for injuries and occupational diseases and a general tendency to increase in a number of these damage suits, it is thought that entrance examinations which are thorough and include x-ray examinations of different types as a permanent record, that many of these procedures could be eliminated with beneficial results to all parties concerned.

Discussion opened by T. D. Cantrell, Bloomington; George M. Landau, Chicago.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Eye, Ear, Nose and Throat, and Public Health and Hygiene.

8:30-12:00—1. "Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

2. "Heart Disease; Past, Present and Future."—W. A. Evans, Chicago.

3. "Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen.

Discussion opened by Lloyd Arnold, Chicago.

4. "The Present Status of Ocular Surgery."—Motion picture demonstration. Oscar B. Nugent, Chicago.

5. "Fractures of the Nose."—Motion picture demonstration. Austin A. Hayden, Chicago.

6. "Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

#### EXHIBITORS AT 1934 ANNUAL MEETING

Charles C. Thomas, Springfield.

Sharp & Smith, Chicago.

Medical Protective Company, Wheaton.

V. Mueller & Company, Chicago.

J. B. Lippincott Company, Philadelphia, Pennsylvania.

Ellis Research Laboratories, Chicago.

A. S. Aloe Company, St. Louis, Missouri.

Abbott Laboratories, North Chicago.

White-Haines Optical Company, Columbus, Ohio.

Kellogg Company, Battle Creek, Michigan.  
Gerbert Products Company, Freemont, Michigan.  
Mead Johnson & Company, Evansville, Indiana.  
Horlick's Malted Milk Corporation, Racine, Wisconsin.

S. M. A. Corporation, Cleveland, Ohio.  
Mellin's Food Company, Boston, Massachusetts.  
Merck & Company, New York City, New York.  
DePuy Manufacturing Company, Warsaw, Indiana.  
General Electric X-Ray Corporation, Chicago.  
Leon Unger, Chicago.  
Cleveland J. White, Chicago.  
Samuel M. Feinberg, Chicago.  
E. P. Sloan, Bloomington.  
West Suburban Hospital, Oak Park.  
Milton G. Bohrod, Peoria.  
Groves B. Smith, Beverly Farm, Godfrey.  
Elgin State Hospital, Elgin.  
The Arthritis Club of Chicago.  
American Medical Association, Chicago.  
Illinois Department of Public Health, Springfield.  
Illinois Tuberculosis Association, Springfield.  
American Society for the Control of Cancer, New York City, New York.  
Harry W. Woodruff, Joliet.  
Harold Swanberg and Arthur E. Perley, Quincy.

This list of exhibitors is incomplete, but the full list with data concerning each exhibit will be published in the May ILLINOIS MEDICAL JOURNAL.

#### NOTES ON EXHIBITS

The A. S. Aloe Company will be represented by an exhibit in Booth No. 53. Featured items will be the Dr. Charles Robert Elliott Treatment Machine for the Elliott heat treatment of pelvic inflammation, and Stille Rustless Instruments at a discount. In addition, a general line of surgical instruments and supplies will be shown.

The Medical Protective Company will be an exhibitor in Booth No. 3. Our representatives will be there to greet old friends and to make new ones. Ask us about the only service of its kind. Let us tell you why a doctor can have better liability protection than is available to any other class.

Sharp & Smith will have their usual Booth, No. 2, at the Illinois State Medical Convention, in charge of Mr. Lewis Frazin.

It will comprise a complete selection of instruments and such other specialties as are of interest to all of the medical profession.

We hope you will find a few moments of your valuable time to inspect the many interesting features of the Sharp & Smith exhibit.

We invite your attention to our exhibit of Horlick's, the Original Malted Milk, natural and chocolate flavors, in Booth No. 19. Samples of Horlick's in both powder and tablet forms will be distributed. The Tablets are a useful variant in the liquid diet and are remarkably convenient to keep at hand at the bedside, as they possess the same remarkably nourishing and digestible qualities as the powder form.



Visitors at the Gerber Products Booth No. 18 will be shown the Gerber's Strained Cereal, Vegetables and Prunes and given any information desired concerning the special process used in the manufacture of these products.

Booklets are available. One on infant feeding is intended for distribution by physicians to mothers and contains help on the technique of feeding without giving definite feeding directions. There are several publications on the use of these products in therapeutic diets, some for professional use only and others for general distribution.

Charles C. Thomas, Publisher, of Springfield, Illinois, and Baltimore, Maryland, will exhibit in Booth No. 1, standard medical texts and reference books, including such new items as Moore's Modern Treatment of Syphilis, Grinker's Neurology, Glasser's The Science of Radiology, Homans' Surgery (2nd edition), Dandy's Benign Tumors in the Third Ventricle of the Brain, Fischer and Hooker's The Lyophilic Colloids, Franklin's Hieronymus Fabricius of Aquapendente, Glasser's Wilhelm Conrad Rontgen, Pusey's History and Epidemiology of Syphilis, Thoma's Clinical Pathology of the Jaws, Mackenzie's Clinical Miscellany, Phelps and Kiphuth's Diagnosis and Treatment of Postural Defects, Bailey's Intracranial Tumors.

The Mellin's Food Company has recently made available to physicians a new formula card for infant feeding which will be shown in their exhibit in Booth No. 14. This card has been prepared after extensive conferences with many authorities and is based on their collective opinions. The Mellin's Food Company believes that the formulas and other suggestions are in accord with current scientific knowledge and practice and represent safe and adequate feedings for average normal infants. Their distribution is limited to physicians, as is all the Company's advertising.

The J. B. Lippincott Company will exhibit in Booth No. 8 an unusual line of new and standard medical, surgical, pharmaceutical and nursing books. Among the most outstanding is Peham and Amreich—"Operative Gynecology"—in two volumes. This atlas is beautifully and extensively illustrated by large drawings showing each operation step by step. Practically all of them are beautifully and accurately colored.

Kirschner—"Operative Surgery," in two volumes. This book immediately became known as "The Color Surgery" because of the wealth of detailed colored illustrations. It contains a great number of items that cannot be found in any other Operative Surgery and is well worth the most careful scrutiny.

There is a new edition of the well-known doctor's time saver, Lippincott's Quick Reference Book and an entirely new and most inexpensive work on "The Treatment of the Commoner Diseases," by Lewellys F. Barker, and the new idea in personal post-graduate work instruction at home supplied from the Pittsburgh Diagnostic Clinic as a Supplement to the famous International Clinics.

In the nursing field there is an entirely new work by Solomon on "Pharmacology, Materia Medica and

Therapeutics for Nurses" and a number of new editions of the standard nursing texts.

S. M. A., the well known antirachitic breast milk adaptation, will be featured at the display of S. M. A. Corporation, Booth No. 20.

Powdered Hypo-Allergic milk for milk-sensitive individuals will be another feature.

Alerdex, the protein-free maltose and dextrans, which is coming into constantly greater favor for routine use as a prophylactic against cereal eczemas, will also be displayed.

Crystalline carotene, so rare in 1930 that only a few men in the whole world had seen it, will be available, is well worth seeing.

Mead, Johnson & Company will have on exhibit in Booths No. 12 and 13 its complete line of infant diet materials including Mead's Dextri-Maltose, Mead's Newfoundland Cod Liver Oil, Mead's Viosterol in Oil—250 D, Mead's 10 D Cod Liver Oil, Mead's (A-D) Viosterol in Halibut Liver Oil—250 D, Mead's Halibut Liver Oil, Mead's Brewers Yeast Powder, Mead's Brewers Yeast Tablets, Pabulum, Mead's Cereal, Sobee, Mead's Powdered Protein Milk, Mead's Powdered Lactic Acid Milk, Powdered Whole Milk, Alacta, Recolac and Casec.

There will also be for the examination of physicians a complete line of Mead's services such as diets for older children, height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired.

Representatives will be on hand to meet their friends and to discuss the application of any of the Mead products to infant feeding problems.

The exhibit of the White-Haines Optical Company, distribution of Blue Ribbon Ophthalmic Supplies with Springfield offices located at 526 East Capitol Avenue, will feature the latest developments of Optical Science. Included in the exhibit will be a demonstration of the method of mounting Loxit, a screwless construction type of rimless glasses. Lenses to be featured and explained are the Panoptik Bifocal (including the improved cataract lens), the Orthogon Soft-Lite lens that provides glare protection with wide vision correction, and the improved Balcor toric lens. A particularly interesting section of the exhibit will be the display of Bausch & Lomb instruments, including the new Clason Visual Acuity Meter, the Binocular Ophthalmoscope, the Slit Lamp, the new Tangent Screen and other equally interesting instruments. The White-Haines exhibit will be in charge of E. F. Wildermuth, general sales manager from Columbus, Ohio, Joe Kihn, manager of White-Haines, Springfield, and Donald Hunter, representative. Be sure to see the White-Haines exhibit in Booth No. 17 if you are doing eye work.

Interesting displays at the Kellogg Booth, No. 11, show the amounts of combined minerals and of iron alone which are found in Kellogg's All-Bran. Reprints of recent research on brain are available. Visiting physicians will be interested, too, in a display of the amount of caffeine which is removed from the coffee beans to make one pound of Kellogg's Kaffee

Hag Coffee (97 per cent. caffeine free), and of the amount of caffeine ordinarily present in one cup of coffee. Kaffee Hag Coffee will be served at the booth.

Winifred B. Loggans, from the Home Economics Department, will be in charge.

The Illinois Tuberculosis Association is arranging an unusual exhibit to be shown at the 1934 Annual Meeting, and although complete details are not available for the preliminary program, a synopsis of the exhibit will appear in the Official Program to appear in the May ILLINOIS MEDICAL JOURNAL.

Interesting information concerning Cancer will be given in the exhibit of the American Society for the Control of Cancer, which will be presented under the direction of Dr. Frank L. Rector, of Evanston. Complete details will appear in the Official Program.

The Illinois Department of Public Health will have a demonstration of the Dick and Schick tests, giving practical demonstrations during the meeting on patients, for the information of the members at the meeting. This work will be in charge of physicians and nurses from the State Health Department, who will be prepared to give any information that is desired on the subject. A new exhibit of five units on industrial hygiene will be shown. This display illustrates health dangers from occupational hazards, and methods of minimizing the risks in these industrial hazards.

Dr. Leon Unger, Chicago, will feature in his exhibit the subject of Allergy. Demonstration skin tests will be made on patients during the meeting. Mounted specimens of different hay fever plants and weeds will be shown and one hundred or more materials causing bronchial asthma will be demonstrated.

"Special occupational relationships in the mental defectives" will be featured in the exhibit of Dr. Groves B. Smith, of Beverly Farm, Godfrey. Motion pictures demonstrating various occupational relationships in the training of mental defectives and correlating mental age levels with clinical types will be shown.

Dr. Milton G. Bohrod, Peoria, will again demonstrate fresh pathologic tissue, in his highly interesting exhibit. Many interesting pathologic specimens, fresh and mounted, will be shown. Regular demonstrations of tissue during the meeting will be arranged.

The American Medical Association will have an exhibit featuring:

1. The History of the American Medical Association.
2. The Organization of the American Medical Association.
3. Hospital Service in the United States.

The exhibit will show many of the things the American Medical Association is doing and what it means to the physicians of this country to affiliate with this greatest of all professional organizations.

Drs. Woodruff and Woodruff Clinic, Joliet, will show an interesting lot of pictures in color of certain types of eye injuries.

1. Puncture of cornea with thorn, causing abscess in the Vitreous. Loss of the eye.
2. Puncture of thorn showing Hypopyon. Recovery.

3. Scratch of the cornea at the limbus. Showing prolapse of iris. Recovery with normal vision after iridectomy and Conjunctival flap.

4. Bloodstain of the cornea from an injury from the branch of a tree.

5. Vegetable foreign bodies in the conjunctiva.

6. Abrasion of Cornea from a spine from a burr.

7. Irido-dyalisis—Luxated lens and hemorrhage in the vitreous from concussion wound.

8. Lens luxated downward from concussion wound. Optical iridectomy with 20/30 vision with lens.

9. Cornea peppered with fine dust from an explosion of basket ball.

10. Sclera cut with glass from a glass front being broken by a base ball. Phthisis Bulbi.

Dr. Cleveland J. White, of the Department of Dermatology, Northwestern University Medical School, will show a series of photographs and charts illustrating the clinical findings, complications, sequelae, laboratory findings and therapeutic resume of a large series of cases of superficial fungus infections of the skin, nails and mucous membranes. Cultures of the ordinary causative fungi will also be shown.

Radiation Therapy: This exhibit will attempt to show some of the results of radiation therapy in modern medical practice, special emphasis being placed on the use of radium. A modification of the Regaud (Paris) technic of treating carcinoma of the uterine cervix with radium will be demonstrated.

Dr. Samuel M. Feinberg, Chicago, will have among the interesting features of his exhibit colored drawings of allergic reactions on the skin and in the eye. Mounted hay fever plants. Important allergens in their raw state. Interesting charts. Demonstration of diagnostic tests on patients.

The Elgin State Hospital, under the direction of the managing officer, Dr. Charles F. Read, will show an interesting film entitled "Recovery," which portrays the various types of treatment used in a modern state hospital. This is an interesting and informative film, which will be of interest to all physicians. The exhibit will also include a Balopticon display, which will run continuously.

The Arthritis Club of Chicago will have an arthritis exhibit, featuring many of the interesting features of this common disturbance. Among the features of this exhibit there will be shadow box displays of interesting cases and x-ray film demonstrations.

Dr. E. P. Sloan, Bloomington, will have a pathologic display of the various types of goiter, with a demonstrator at the exhibit to show the many types and give any information concerning them that may be desired by the members in attendance.

The West Suburban Hospital, Oak Park, will have several departments of this institution represented to show various features of the work which is done in modern hospitals. Various types of demonstrations of pathologic material, mounted specimens, and other forms of visual education will be featured in the exhibit.



## Correspondence

### HOW TO KILL A MEDICAL SOCIETY

1. Don't come to the meetings. If you do come, come late.

2. If the weather doesn't suit you, don't think of coming.

3. If you do attend a meeting, find fault with the work of the officers and other members.

4. Never accept office, as it is easier to criticize than to do things. Nevertheless, get sore if you are not appointed to a committee; but if you are, do not attend the committee meetings.

5. If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say.

6. After the meeting, tell everyone how things ought to be done.

7. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the organization is being run by a clique.

8. Hold back your dues as long as possible; or don't pay at all.

9. Don't bother about getting new members. Let George do it.

—ILLINOIS MEDICAL JOURNAL, February, 1922.

### MACON COUNTY MEDICAL SOCIETY TURNS DOWN HOSPITAL INSURANCE PROPOSAL

#### REPORT OF COMMITTEE ON HOSPITAL INSURANCE

Your committee, after due deliberation, decided that its function should be not to render an opinion upon the merits or demerits of any specific plan for Hospital Insurance, but rather to make a recommendation to this society concerning the endorsement or promotion of the principle of Hospital Insurance.

In order to render an unbiased opinion a questionnaire was sent to 277 medical men, throughout the United States, all of whom are vitally interested both in the medical profession and in hospitalization. Most of these men were

either officers of state and national medical organizations or editors of medical journals.

The following five questions were submitted:

1. Do you approve of the principle of Hospital Insurance plans now in use in several states?

2. Do you think Hospital Insurance would stimulate undesirable competition among hospitals?

3. Do you think that Hospital Insurance will stimulate other medical insurance plans?

4. Do you think that medical profession should indorse and promote Hospital Insurance?

5. Do you think the adoption of Hospital Insurance might lead to practice of medicine by hospitals?

One hundred and one replies were received from 41 states, the tabulation of which is as follows:

Question 1. Yes, 26; No, 68; Insufficient Inform., 7; % 63.92  
Question 2. Yes, 74; No, 20; Insufficient Inform., 7; % 69.56  
Question 3. Yes, 82; No, 11; Insufficient Inform., 8; % 76.26  
Question 4. Yes, 20; No, 77; Insufficient Inform., 4; % 74.69  
Question 5. Yes, 76; No, 22; Insufficient Inform., 3; % 74.43

Questionnaires of presidents, secretaries, and editors of state medical societies, as identified, 7. Tabulation of these:

Question 1. Yes, 1; No, 5; Insufficient Inform., 1; % 83.0  
Question 2. Yes, 6; No, 1; Insufficient Inform., 0; % 85.63  
Question 3. Yes, 5; No, 2; Insufficient Inform., 0; % 71.40  
Question 4. Yes, 1; No, 6; Insufficient Inform., 0; % 85.68  
Question 5. Yes, 6; No, 1; Insufficient Inform., 0; % 85.63

Returns received from Illinois, as identified, 12. Tabulation of these is as follows:

Question 1. Yes, 1; No, 10; Insufficient Inform., 1; % 91.0  
Question 2. Yes, 10; No, 1; Insufficient Inform., 1; % 91.0  
Question 3. Yes, 11; No, 0; Insufficient Inform., 1; % 100.0  
Question 4. Yes, 1; No, 10; Insufficient Inform., 1; % 91.0  
Question 5. Yes, 10; No, 1; Insufficient Inform., 1; % 91.0

In view of the results of this questionnaire, and other information received, with regard to the feeling of medical men towards Hospital Insurance, at this particular time and with a fair sense of justice to medicine and medical men (practitioners), we, the undersigned members of the committee, hereby recommend that the Decatur Medical Society do not indorse any type of Hospital Insurance.

Respectfully submitted,

F. Flinn, Chairman,  
F. E. Smith,  
L. O. Frech.

REPORT OF THE SPECIAL COMMITTEE  
APPOINTED BY THE CHAIRMAN OF  
THE COUNCIL OF THE ILLINOIS  
STATE MEDICAL SOCIETY TO  
CONSUMMATE AN AGREEMENT  
WITH THE ILLINOIS EMER-  
GENCY RELIEF COMMISSION  
FOR THE MEDICAL CARE  
OF THE UNEMPLOYED

On March 27, 1933, the President of the Illinois State Medical Society received a letter from Mr. J. E. Foster, of the Information Service of the Illinois Emergency Relief Commission asking that a small committee be appointed by the Illinois State Medical Society to confer with that commission in reference to medical relief during the present emergency.

The President of the Society appointed Dr. J. H. Hutton, of Chicago, as Chairman of the committee; Dr. P. H. Kreuscher, Chicago; Dr. G. C. Otrich, Belleville, and Dr. Don Deal, of Springfield, and the Illinois Emergency Relief Commission was notified on March 29 of the personnel of the committee with the assurance that it would be available when a conference was called.

Early in May one meeting was held. Afterwards the Federal Emergency Relief Administration issued Rules and Regulations No. 7, "governing medical care provided in the home to recipients of unemployment relief," and on September 18, 1933, the officers of the Illinois State Medical Society were first informed of Federal Rules and Regulations No. 7. Immediately, the Chairman of the Council called a special meeting of the Council, which was held in Chicago on September 24, at which time a special committee was appointed, and given power to act for the Society in submitting and adopting a suitable program with the Illinois Emergency Relief Commission. The following were appointed to serve on the Committee: Dr. Charles H. Phifer, Chicago; Dr. Julius H. Hess, Chicago; Dr. E. C. Cook, Mendota; Dr. S. E. Munson, Springfield, and Dr. J. R. Neal, Springfield, was appointed chairman of the committee. Dr. P. H. Kreuscher President of the Society; Dr. R. K. Packard, Chairman of the Council, and Dr. Harold M. Camp, Secretary of the Society, acted as ex-officio members of the committee.

The committee held its first meeting that same afternoon, going over a large amount of data which had been procured before the meeting. A second meeting was held on October 1, at which time a general agreement was made regarding the program to be submitted, and the chairman of the committee directed the Secretary of the Society to draw up the program and send a copy to each member and ask for his approval by mail. This was done, and in addition to the members of the committee who promptly approved it, copies were mailed to each member of the Council.

The first conference with the Illinois Emergency Relief Commission was held on October 10, and the Associate Executive Secretary of the Commission went over the program with our committee and was favorably impressed with its provisions, and assured the committee that he believed it would receive prompt attention, although he was quite sure that another conference would be necessary to discuss certain features pertaining to fees, etc., before the final approval would be given by the Illinois Emergency Relief Commission.

A number of conferences were held, and in an effort to minimize the traveling expense of members outside of Chicago, a sub-committee was appointed by the chairman of the advisory committee, including the chairman and the Secretary, Dr. Julius H. Hess, and Dr. Charles B. Phifer. The results of the deliberations were promptly sent to each member of the committee and the members of the Council.

During this period, Dr. Camp, the Secretary of the Society, kept in constant touch with other state societies to ascertain their activities along the same line. A large amount of data was accumulated which was made available not only to the advisory committee but to each member of the Council.

The sub-committee met on November 26, at which time Dr. Frank J. Jirka, State Director of Public Health, was invited to be present, and discussed with the committee many of the problems that had arisen.

Many letters were exchanged with the officers of the commission who informed us that the program was necessarily laid aside for a number of weeks when the first special legislative session in Illinois was under way, in that a bill proposing a thirty million dollar (\$30,000,000.00)



bond issue to make more funds available was being considered by the Legislature. Then, again, the newer C. W. A. activities interfered, in that many thousands were taken off the relief rolls and given work on a remunerative basis. This occasioned a great deal of overlapping of activities.

In response to a telegram to the Executive Secretary of the Illinois Emergency Relief Commission on December 15 asking for immediate action, if possible, a conference was called by the Commission which was held in the offices of the Illinois Emergency Relief Commission on December 20, and the sub-committee was successful in commencing to shape an acceptable proposal.

On December 28, the Commission informed the Secretary that the program we had submitted had been approved in principle, but the matter of fees would have to be further considered. A subsequent meeting of the committee with the Commission resulted in an acceptance of the plan that had been submitted, and a partial report of the activities up-to-date was made by the committee to the Council at the January meeting. But much was yet to be accomplished, in that a tentative approval only had been secured from the Commission.

Not until January 18, 1934, was the final draft agreed upon, and the Secretary of the Illinois State Medical Society promptly sent to all Councilors and to the officers of each county society copies of the rules and regulations proposed by the committee representing the Illinois State Medical Society, and accepted by the unanimous vote of the Illinois Emergency Relief Commission.

It is to be recalled that medical relief is but a small part of the gigantic task of helping the thousands of needy in Illinois, and the delay in our program was due entirely to the great amount of relief work to be accomplished, and the members of your committee are convinced, from the many and frequent conferences, that the officers who are administering the relief in Illinois were sincerely endeavoring to consummate the proper working plan with the physicians of Illinois at the earliest possible moment.

During the time the commission was weighing the medical problem as to its practicability, probable cost, etc., the Secretary of the Society was busy disseminating the information to all

county societies, including the Chicago Medical Society, and with but one or two exceptions, all societies were tolerant of the delay, and appreciative of the great task the Council and the committee had undertaken.

Finally, on February 10, a complete set of rules, with the necessary forms to be used by the physicians in making out their bills for services, were issued by the Illinois Emergency Relief Commission, entitled "Official Bulletin No. 165." A copy of this bulletin was sent by the Relief Commission to the chairman of each county relief organization. In the letter accompanying the rules and regulations from the Relief Commission dated February 10 the following statement appears: "This plan has been adopted by the Commission after consultation with the Illinois State Medical Society. It is not, however, to be in force in any county until the county Emergency Relief Committee in consultation with the local and/or County Medical Society, has indicated in writing to the Commission its intention of adopting it and has developed a county plan and submitted it to the Executive Secretary of the Illinois Emergency Relief Commission and secured his approval."

It is not to be construed that the medical plan suggested by your committee and adopted by the Illinois Emergency Relief Commission is perfect—any plan of such vast proportions is liable to have weak spots. We have been advised by the Commission that changes will be considered to better the program as occasion arises, and after all, the agreement is an emergency measure only, and can be terminated by either party after the initial period of ninety days has passed. No doubt, constructive changes will be offered as the plan is applied to all parts of the state.

To those who have studied the Illinois plan it is quite evident that it is more comprehensive and workable than any other state plan yet published, and includes desirable features omitted by other states.

It is certainly not obligatory for county societies to accept the plan. However, it is difficult to see what can be gained by refusing to do so.

Physicians should realize that only those patients who are willing to apply for relief through the proper channels are eligible to have their medical bills paid by Illinois Emergency Relief

Commission money. However, it has been brought forth that many families who have not yet applied for any form of relief find that they are unable to pay for medical services, and if, after proper investigation by the relief authorities, these cases are found to be worthy they may be granted medical relief.

In conclusion, your committee desires to record its deep appreciation of the cooperative spirit and the uniform courtesy the officers of the Illinois Emergency Relief Commission have evidenced in the many meetings and conferences.

Respectfully submitted,

CHARLES H. PHIFER, M. D.

JULIUS H. HESS, M. D.

E. C. COOK, M. D.

S. E. MUNSON, M. D.

J. R. NEAL, M. D., Chairman

#### EDUCATIONAL COMMITTEE

*March, 1934*

Jean McArthur, Secretary

#### PRESS SERVICE

1,257—Releases to Illinois newspapers.

356—Regular Service.

21—Monthly Service.

35—Newspapers, re meeting Jackson County Medical Society.

81—Newspapers, re meeting LaSalle County Medical Society.

671—Newspapers, re Annual meeting State Medical Society.

39—Community newspapers, announcement of Branch meetings of Chicago Medical Society.

4—Chicago Association of Commerce, Chicago Medical Society meetings.

24—Metropolitan newspapers, Chicago Medical Society Articles were written and approved on Chickenpox, Keeping Fit, Erysipelas, Mumps—An Ancient Malady, Clean-up Time Again, Fit for School.

#### SPEAKERS' BUREAU

50—Health talks were given by members of the Illinois State Medical Society before women's clubs, parent teacher associations, Y. M. C. A.'s colleges, high schools, Young Mothers' Clubs, Adult Education groups of the C. W. A., Rotary Clubs, Lions Clubs, Kiwanis, University Clubs, Women's Auxiliaries. The following physicians took part in these programs:

Aaron Arkin, Theodore Bacmeister, W. W. Bauer, Frank Buckmaster, Harold Camp, Charles W. Carter, Arthur J. Cramp, Maude Lee Etheridge, G. K. Fenn, Walter Fischer, Harry C. Gebhart, Stanley Gibson, Oliver Heimdal, Elmer W. Hagens, Edward C.

Holmblad, Alex A. Hershfield, Emmet Keating, Gerard N. Krost, D. W. Killinger, Aaron Learner, Arno B. Luckhardt, Frank Maple, Charles H. Miller, Carolyn McDonald, Henry C. Niblack, Mabel Howe Otis R. K. Packard, G. Washington Prince, Charles N. Pease, Herbert Rattner, Lena K. Sadler, Mary G. Schroeder, Frank Smithies, Howard Kenneth Scatliff, F. E. Senear, Meyer Solomon, J. M. Tindal, W. C. VanWormer, John R. Vonachen, Eva Wilson, E. G. C. Williams.

#### SCIENTIFIC SERVICE

14—Programs were scheduled for county medical societies:

Geza deTakats, Sangamon County.

Carl A. Hedblom, Scott County, Davenport, Ia. Leon Unger, Will Grundy County.

M. Herbert Barker, Morgan County.

O. H. Crist, Iroquois County.

Clement L. Martin, Jackson.

Samuel Feinberg, Creston, Ia.

Robert W. Keeton, Fulton.

John Wolfer, LaSalle.

A. A. Goldsmith, LaSalle.

G. P. Guibor, LaSalle.

Oscar T. Schultz, Will Grundy.

Edwin W. Hirsch, Will Grundy.

Philip H. Kreuscher, Whiteside.

#### RADIO PROGRAMS

18—Health talks given from stations WGN, WJJD, WAAF.

Stanley J. Norys—"Nasal Obstructions and What They Cause."

Arthur C. Taylor—"Erroneous Ideas Concerning Some Medical Questions."

Albert H. Jenkins—"Adenoids."

Wilbur E. Kessey—"Amebic Dysentery."

Vernon R. DeYoung—"Keeping the Young Child Well."

Percy E. Hopkins—"Hernia."

Robert Moore Jones—"Feeding a Fever."

Frederick C. Test—"Affections of the Joints."

Louis Savitt—"Mouth Breathing in Children."

J. F. Tenczar—"Gall Stones."

Leslie H. Reimers—"Early Symptoms of Heart Failure."

Earl O. Latimer—"Boils and Carbuncles."

A. R. Morrow—"A Plea for First Aid."

Julian L. Plaut—"Faith in Your Doctor."

Perry J. Melnick—"Foundation Stones of Medicine."

Charles A. Lapin—"Obesity."

Samuel J. Lang—"Chronic Arthritis."

#### MISCELLANEOUS

140—Articles were sent to the seventy nurses working under the C.W.A. Program of the American Red Cross. At the request of the Director of this service, the Committee will furnish articles of timely interest every week to these nurses. Educational articles on prevalent dis-



eases as reported by the State Department of Health will be sent out.

26—Health education articles for posting on bulletin boards were furnished Central Y. W. C. A., Chicago.

54—Libraries in Cook County are now receiving every two weeks health educational articles for bulletin posting and filing for reference.

260—Articles have been sent to libraries throughout the state, twenty-seven libraries downstate have asked to be put on the mailing list to receive material regularly.

Exhibits have been secured from the American Medical Association for the Annual Homemakers' Conference sponsored by the Settlement Houses of Chicago, for Central Y. M. C. A., and for the Y. M. C. A. Hotel. An exhibit will be sent to the Annual meeting of the Illinois Congress of Parents and Teachers at Springfield.

Several hundred physical examination blanks have been furnished upon request.

15—Package libraries have been loaned physicians.

265—Notices mimeographed for Woman's Auxiliary.

225—Cards mimeographed for Health program of Illinois Federation of Women's Clubs.

191—Notices mimeographed and sent to doctors announcing March meeting of Jackson County Medical Society.

373—Notices mimeographed and sent to doctors announcing March meeting of LaSalle County Medical Society.

#### PRELIMINARY ANNOUNCEMENT OF PROGRAM OF THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE ALUMNI MEETINGS

The Alumni Clinics of the University of Illinois College of Medicine will be conducted this year on the morning and afternoon of June 6 and the morning of June 7. There will be operative clinics given by the Departments of Surgery, Gynecology and Obstetrics and Surgical Specialties covering the advances in their respective fields. The Orthopedic Division of the Hospital furnishes a wealth of both common and unusual cases suitable for demonstration and operative purposes. To the Research Hospital proper are admitted only cases suitable for teaching purposes. This material is selected from an out-patient department which has approximately 150,000 patients' visits in spite of attempts to limit the number. To this material should be added that of the Cook County Hospital, which is made available by the members of the attending staff who are on the University Faculty. The Committee feels, therefore, that the material available for these clinics cannot be surpassed and that the opportunities for the study of the cases are exceptional. These studies will be presented in the Alumni Clinics and will be illustrated by the patients themselves.

In addition to the clinics, Dr. Arvid Wallgren, Professor of Children's Diseases of Gotenburg, Sweden, will deliver two lectures on Tuberculosis.

On the afternoon of June 7 at 1 p. m., the Memorial Lecture will be delivered by a nationally prominent medical man on a timely topic in clinical medicine. The business meeting of the Alumni Association will be held at 2 p. m.

In the evening the annual Alumni and Faculty Dinner tendered the Fourth Year Class of the College of Medicine will be held at the Medinah-Michigan Avenue Club. The classes of '83 to '89, inclusive, will be featured on the program. There will be reunions of the classes of 1904, 1909, 1914, 1919, 1924 and 1929.

The graduating exercises of the College of Medicine will be held on Friday morning, June 8.

#### CLINICAL MEDICINE AND SURGERY CHANGES HANDS

Forty years ago, *Clinical Medicine and Surgery* was founded by the Abbott Laboratories, under the name of *The Alkaloidal Clinic*, and, with various changes of name and editorship, has been owned by them ever since.

For the past ten years, under the editorship of Dr. George B. Lake, its editorial policy has been entirely independent; but now, with the passing of its sole ownership to Dr. Lake, it becomes fully independent, in form and in fact as well as in policy.

There will be no recession from the high editorial and advertising standards which have been maintained for many years, and no immediate change in its name or format, but it is felt that the new set-up will allow an even greater freedom for cooperation and helpfulness, for readers and advertisers, than ever before.

The new editorial and business offices of "C. M. and S." will be in the Medical and Dental Arts Building, Waukegan, Ill., with a Chicago office at Room 670, 410 N. Michigan Ave.

#### ILLINOIS TUBERCULOSIS ASSOCIATION TWENTY-FIFTH ANNUAL MEETING

Dr. E. S. Murphy, Dixon, president of the Illinois Tuberculosis Association, announces the Twenty-fifth Annual Meeting of the association, to be held at Hotel Emmerson, Mt. Vernon, April 30 and May 1, 1934. The program of April 30 is arranged primarily for physicians of the state, all of whom are cordially invited by the Illinois Tuberculosis Association to attend the meeting.

The tentative program for Monday, April 30, starting with a luncheon at 12 o'clock, is as follows:

1:00-2:00—Dr. Carl A. Hedblom, Chicago, surgeon-in-chief of Research and Educational Hospital, University of Illinois, "Thoracic Surgery with Special Reference to Thoracoplasty."

2:00-3:00—Dr. Henry C. Sweany, Chicago, medical director of research, Chicago Municipal Tuberculosis Sanatorium, "Pathological Aspects of Tuberculosis."

3:00-3:30—Recess.

3:30-4:00—Dr. D. O. N. Lindberg, Decatur, medical director, Macon County Tuberculosis Sanatorium, "The Use of Tuberculin and X-ray in Diagnosis of Early Tuberculosis."

4:00-4:30—Dr. Robinson Bosworth, Rockford, medical director, Rockford Municipal Tuberculosis Sanatorium, "Home Treatment of Tuberculosis."

4:30-5:00—Dr. M. Pollak, Peoria, medical director, Peoria County Tuberculosis Sanatorium, "Recent Developments in the Use of Artificial Pneumothorax."

The annual banquet, to be held at Hotel Emmerson, will begin at 6:15 o'clock. The banquet program includes:

Address, Dr. E. S. Murphy, president.

Address, Dr. Frank J. Jirka, director, State Department of Public Health.

Address, Dr. Harold M. Camp, secretary, Illinois State Medical Association.

Address, Dr. Kennon Dunham, medical director, Hamilton County Tuberculosis Sanatorium, Cincinnati, Ohio.

Following the banquet, all present will be invited to attend a frolic as guests of the local committee under the direction of Dr. Moss Maxey.

Tuesday, May 1, is Child Health Day, and a special program is being arranged on the health of children, of particular interest to nurses and school teachers.

## AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

HEADQUARTERS—WADE PARK MANOR—CLEVELAND

*June 7, 8, 9, 1934*

### TENTATIVE PROGRAM

*Thursday, June 7*

Morning

Registration, Wade Park Manor.

Clinics. Hospitals of Cleveland.

Afternoon—Ball Room, Wade Park Manor

Symposium Hyperthyroidism.

1:30—Dr. Stuart Gordon, Toronto, Canada.

"Clinical Hyperthyroidism in the Presence of Normal B. M. R."

1:50—Dr. Urban Maes, New Orleans, La.

"Hyperthyroidism in the Negro."

2:10—Dr. H. M. Clute, Boston, Mass.

"Hyperthyroidism in the Aged."

2:30—Dr. Edward H. Rynearson, Rochester, Minn.

"Oxygen Content of the Blood in Hyperthyroidism."

2:50—Intermission.

2:55—Dr. Sam Haines, Rochester, Minn.

"Iodine in Recurrent Exophthalmic Goiter."

3:15—Drs. Henry K. Ransom and Robert H. Bayley, Ann Arbor, Mich.

"Thyroid Crisis."

3:35—Dr. W. F. Rienhoff, Jr., Baltimore, Md.

"The Histological Structure of the Thyroid in Patients Cured of Hyperthyroidism by Operation."

3:55—Intermission.

4:00—General Discussion.

Evening—Academy of Medicine

8:00—Dr. Herman L. Blumgart, Boston, Mass.

"Indications, Contraindications and End Results

in Treating Various Forms of Cardiovascular Disease by Complete Removal of the Thyroid."

Dr. L. J. Karnosh, Cleveland, Ohio.

"Psychoses in Hypothyroidism and Hyperthyroidism."

Dr. R. M. Howard, Presidential Address.

*Second Day, Friday, June 8*

Morning

9:00—The University Hospitals.

Clinics.

Demonstrations.

Short Papers.

Afternoon—Wade Park Manor

1:30—Dr. Arnold Jackson, Madison, Wis.

"A Survey on Cretinism in the United States."

1:50—Dr. H. L. Foss, Danville, Pa.

"A Review of Our Modern Concepts of the Physiology and Pathology of the Thyroid Gland."

2:10—Dr. Claude J. Hunt, Kansas City, Mo.

"Intrathoracic Goiter." (Case Report and Slides.)

2:30—Intermission.

2:35—Dr. Julian Johnson, Philadelphia, Pa.

"An Experimental Study of the Function of the Superior Laryngeal Nerve and Its Practical Application."

2:55—Dr. George M. Curtis, Columbus, Ohio.

"Blood Iodine."

3:15—The VanMeter—Prize Award Essay.

3:35—Intermission.

3:40—General Discussion.

Evening—Wade Park Manor

7:30—Annual Dinner (Informal).

Dr. George W. Crile, Cleveland, Ohio.

"Comparative Studies of the Thyroid Gland in Animals."

Prof. Francis H. Herrick, Cleveland, Ohio.

"Life History of the American Eagle." (Movie.)

*Third Day, Saturday, June 9*

Morning

9:00—The Cleveland Clinic.

Clinics.

Demonstrations.

Short Papers.

11:30—Annual Meeting of the Association.

12:00—Luncheon.

## WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

*State Board Meeting*

A meeting of the Board of the Woman's Auxiliary to the Illinois State Medical Society was held in the Stevens Hotel, Chicago, March 10, 1934, at ten o'clock, with Mrs. Solomon Jones, President, presiding. Fifteen members answered to the roll call. Illness and winter vacations reduced the attendance, but the meeting did not lack enthusiasm. The minutes of the last meeting and the Treasurer's report were read, accepted and placed on file. Mrs. W. R. Cubbins expressed the sen-



timents of the Board when she complimented the Recording Secretary, Mrs. John A. Wolfer, on the clearness and accuracy of her reports.

Several councilors and chairmen of committees who were unable to be present sent interesting and promising reports.

Mrs. A. B. Middleton, Councilor for Second District, was present and reported the organization of Woodford County at a meeting on March 9, and another meeting pending in Bureau County. This report was received with appreciation.

Mrs. Philip Kreuscher, Chairman of the Organization Committee, stated that "if but one county in each district could be added to the State Organization, the Committee will feel real joy in contributing this part to a successful year."

The report of Mrs. W. D. Chapman, Chairman of the Legislative Committee, was read. This report appears in another column of this Journal.

Mrs. J. P. Simonds, Chairman of the Press and Publicity Committee, reported that articles have been published each month in the Illinois Medical Journal, and that two hundred reprints of Dr. R. R. Ferguson's article on "Medical Economics" had been made. Sixty copies were sent to the National President, Mrs. James Blake, for distribution to the National Board and to the State Presidents. Copies have also been sent to the members of the Board and to the County Presidents in Illinois.

Mrs. W. R. Cubbins, Chairman of the Public Relations Committee, reported progress in making contacts with lay groups. She emphasized the need for education on vivisection, and is cooperating with the Educational Committee in making plans for lectures to be given by physicians before lay meetings and in public schools throughout Illinois. Mrs. Cubbins also reported a successful culmination to the problem of the Spaulding School presented at the last meeting and extended an invitation to the members of the Board to visit the school when in Chicago.

Mrs. A. H. Baugher, Third Vice-President, invited all present to attend a meeting of the Jackson Park Branch of the Chicago Auxiliary on March 21st, when Dr. A. J. Carlson is to speak on "Vivisection."

Mrs. Nelson M. Percy, Councilor for Third District, reported that as program and educational chairman for the Chicago Auxiliary, she had collected material on vivisection which will be kept in the office of the Chicago Medical Society for the use of members of the Chicago Auxiliary. Mrs. Percy has also prepared a study envelope on vivisection for members of the Council of the Chicago Auxiliary. All of this material has been approved by the Advisory Committee of the Chicago Auxiliary and is available to the county organizations.

The report of the Revisions Committee was read by Mrs. James H. Hutton. It was approved and will be presented at the next annual meeting of the State Auxiliary.

Mrs. Michael Mason, Chairman of the Archives Committee, gave her report and asked for further cooperation in order to complete her records.

Mrs. H. H. Hurd, Chairman of the Hygeia Committee, reported increasing interest in that publication.

The report of the Nominating Committee was read and accepted.

Mrs. Lucius Cole, President of the Chicago Auxiliary, announced that the Chicago Auxiliary will be represented at a Century of Progress again this year with Mrs. A. H. Brumback as Chairman of the committee in charge.

The President announced that Mrs. H. B. Henkel, Convention Chairman, is making plans for the Convention at Springfield. A large attendance is expected. She suggested that the Chairman of the various committees hold round table discussions with members interested in their activities at a luncheon during the State meeting.

Correspondence was read relative to the deKruif articles which had appeared in recent magazines and a letter from Dr. Frank J. Jirka relative to Public Health work in Illinois.

The downstate members of the Board were the guests of the Chicago members at luncheon.

Respectfully submitted,

(Mrs. H. I.) Madge N. Conn,

First Vice-President.

---

#### REPORT OF LEGISLATIVE COMMITTEE WOMAN'S AUXILIARY, ILLINOIS STATE MEDICAL SOCIETY

Legislative activities in the auxiliary should be advised by action of the legislative committee of the Illinois State Medical Society.

During the past year no state legislation has been proposed directly affecting the medical profession. The special sessions of the legislature which have been in progress, considered only such legislation as was stated in the call, and this did not include measures affecting the practice of medicine. However, we may reasonably expect the next regular session of the legislature to resurrect the hundred or more bills, passage of which the legislative committee of the Illinois State Medical Society through its most able chairman has so far been able to prevent.

Auxiliary members should be made cognizant of such legislation when it is pending and should inform themselves by reading the editorials bearing upon such legislation appearing in the Illinois Medical Journal.

Too often, our Women's Clubs are flooded with propaganda for a measure and hear nothing whatever of a different viewpoint. There would be fewer endorsements from women's clubs reading the state legislature if we might have a well informed auxiliary membership.

Pending federal legislation which deserves the support of the medical profession is the Tugwell Copeland bill, commonly called the "Food and Drug" bill. Hearings on the second revision of this bill were held in Washington last week. An interesting comment on this

bill is found on Page 696, the Journal of the American Medical Association, March 3rd issue.

During the present session of Congress it is reasonable to expect from the supporters of the former Shepard-Towner legislation, a new bill designed to play upon the sympathies of the uninformed. When such legislation is introduced we confidently hope that auxiliary members will inform themselves through editorials in the medical journals and papers which may be obtained from the Educational Committee of the Illinois State Medical Society.

We must first inform ourselves!

Mrs. W. D. Chapman,  
Legislative Chairman.

### LEG ULCERS DUE TO THYROID DYSFUNCTION

Milton H. Cohen, York, Pa. (*Journal A. M. A.*, Jan. 27, 1934), reports a case of deep ulcerations of the lower extremities associated with myxedema. The internal administration of thyroid extract quickly healed, in a few weeks, ulcers that had persisted unchanged for six years. The cutaneous changes in diseases of the thyroid are not well understood or explained, and the relationship between circumscribed myxedema of the legs and leg ulcers of obscure etiology is suggested. The presence of myxedematous symptoms in cases of hyperthyroidism seems rather anomalous. Most of the cases reported of circumscribed myxedema of the extremities occurred in exophthalmic goiter conditions following operation. In the author's case the patient noted the return of her ulcers when the basal metabolism was high as well as when it was low. The presence of hypothyroidism and hyperthyroidism in the same patient at the same time is rather confusing and difficult to explain. Richter quotes Kocher as assuming that exophthalmic goiter has three stages: a primary stage marked by intense symptoms, a secondary stage marked by a relenting and changing of the symptoms in accordance with the intervention of endocrine correlations, and a third stage characterized by regressive changes. Since all the parts of the thyroid and the other endocrine glands are not equally affected, the clinical picture can vary enormously. Thus, for instance, part of the thyroid may return to a normal colloid condition, or the regressive changes may advance to such an extent that atrophy, which is ordinarily not a part of the histopathologic picture of exophthalmic goiter, comes to the fore and the hormone secretion reacts with hypothyroidism instead of with hyperthyroidism. Therefore, Richter believes that the paradoxical finding of myxedematous cutaneous symptoms in exophthalmic goiter has its explanation in a tertiary stage of exophthalmic goiter, which is hormonally associated with hypothyroidism. A basal metabolism test in cases of severe ulcerations of the lower extremities that are not amenable to treatment might in some cases help to solve the problem, and thyroid extract used, both internally and locally, might be useful in healing some of these lesions. In every case of severe ulcerations of the lower extremities a careful physical examination and laboratory study

should be made, for the majority of such disorders are due to systemic changes and not to local causes.

### NORMAL SLEEP PATTERN FOR CHILDREN: FACTORS WHICH DERANGE SUCH A PATTERN (PHYSICAL FACTORS)

Glenville Giddings, Atlanta, Ga. (*Journal A. M. A.*, Feb. 17, 1934), draws the following conclusions from a study of the sleep of twenty-eight children, aged from 9 to 14 years, equally divided as to sex, over a period of 364 nights. 1. A child has a definite sleep pattern. This pattern is rarely disturbed except through sickness or certain experimental conditions. 2. The drinking of 6 ounces of warm milk at bedtime seems to produce quiet sleep in normal children. Of the other beverages tested, none seems to affect sleep consistently, one way or the other. The drinking of a beverage containing three-fifths grain (0.04 Gm.) of caffeine produces no more restlessness than was seen after the drinking of an equal amount of orange juice. 3. The taking of a large amount of food at the evening meal, even though the food might be considered plain food, resulted in marked restlessness. In many cases the restlessness continued throughout the night. 4. The giving of baths, either warm or cold, on retiring seems to have no constant effect, either in the production of, or in the interference with, sleep in normal children. 5. A child sleeps definitely quieter in cold weather than in hot.

### SOUR DOUGH HOTEL (Best North of Mexico) Dawson, Yukon Ter.

#### RULES OF THE HOUSE

Crap, Chuck Luck, Stud Poker and Black Jack games run by the house.

Ladies' private entrance by ladder in the rear.

Special rates to ministers and the gambling profesh.

Every known fluid except water for sale at the bar. Coffins, dogs and insect powders for sale.

Indians and negroes, charges double.

Not responsible for diamonds, bicycles, etc., stored under the bed.

Towels changed weekly.

Sheets monthly.

Dogs not allowed in the bunks.

Candles and hot water charged extra.

Remove spiked boots at night.

Hotel convenient to all cemeteries.

Guests wishing to get up early can have self-raising flour biscuits for supper.

Machine guns and automatics not allowed in dining room.

Those who call dinner lunch, and supper dinner, should leave address of friends with undertaker next door.

—Hotel stationery contributed by F. S. BETZ.

### ALL WET

Pedagog: "Name the constituents of quartz?"

His Father's Son: "Pints."—*The Bulletin* (Sydney, Australia).



## Original Articles

### PERIDURAL ANESTHESIA IN ABDOMINAL SURGERY\*

JOHN R. HARGER, S. B., M. S., F. A. C. S.

From the Surgical Service of Cook County  
and Illinois Masonic Hospitals

CHICAGO

Euthanasia has commanded the attention of the human family since the advent of history and from the time our ancestors devised surgical procedures, anesthesia has bid for an equally important place in the minds of men.

Since the discovery of chloroform and its anesthetic qualities in the middle of the last century, there has been a constant search for more efficient and safe methods for the relief of pain during surgical operations.

Each decade has witnessed some advance and we now have efficient anesthetics, but without a well trained anesthetist we are often greatly handicapped. For those, who are called to treat the sick in sparsely settled communities where a corps of competent assistants are not available, find much to be desired in this line.

That no single drug or method of application covers the entire field of surgical anesthesia has been determined, and every experienced operator today seeks for safety and potency, measured by the relative merits of the case to be operated on and the ability to administer the anesthetic of choice.

Local infiltration or nerve block with any one of the standardized preparations, for minor work and certain types of major, cannot be severely criticized.

Subarachnoid block in the hands of the skilled operator receives the praise of the most meticulous but has certain handicaps which must receive serious consideration.

The gases alone or combined with ether, under the control of the expert, approaches the ideal but becomes a dangerous procedure when employed by the novice; equally effective is ether alone in selected cases and when properly administered.

Safety is the paramount issue in all methods of anesthesia, effectiveness in a very large percentage of cases is demanded and simplicity of application is very desirable. Relative expense is an important issue at this time.

We are indebted to Dogliotti for calling our attention to peridural anesthesia and the above facts make it seem desirable that a more safe and simple method of anesthesia should be evolved that could be applied in the absence of a corps of able assistants. That such work must be carried out in our large hospitals where trial and error can be safeguarded, is evident. Accordingly in my surgical service at the Cook County Hospital about eighteen months ago we began to use peridural anesthesia. We should all realize that if the medical profession of this country are to serve all the people as they have a right to expect, more efficient and safe surgery must be dispensed especially in the wayside cottage hospital or rural homes, at times. The relative simplicity of this method of anesthesia should encourage quite general use.

Peridural anesthesia does not involve any new principles nor the employment of any new drug, but it is merely an attempt to extend our knowledge and faith in its usefulness in a wider field of surgery.

For about thirty years perisacral anesthesia has been used satisfactorily in perineal and many genitourinary operations.

In 1901 Cathelin gave a detailed description of peridural anesthesia for sacral block, and gave a long list of conditions in which pain could be controlled by this method.

He described in detail the anatomy of the cord and was confident that the fluids injected did not penetrate into the subdural or sub-arachnoid spaces; thus there was no danger of direct action upon the medulla or cerebral centers. He further declared that the fluids injected into the sacral canal rise by capillary action in the epidural space to a greater or less height according to the amount of fluid injected and the speed of injection.

Experimentally he found the epidural cavity showed an extreme tolerance and that more than a litre of fluid could be injected in a dog of average weight. He also discovered that the injection of cocaine into the sacral canal of dogs produced a complete and total analgesia of the entire body of the animal.

Our progress and ultimate conclusions will to a great extent be governed by the experiences of many men. Premedication of some sedative and cooperation of the patient are essential for success.

\*Read before Section on Surgery at Peoria, May 17, 1933.

Your interest in this type of anesthesia presupposes a thorough knowledge of the anatomy of the spine, the cord and its nerve roots and the relationship of the sympathetic nerve trunks and ganglia. That knowledge reveals the simplicity of the procedure.

The technique of this method was well described by Soresi<sup>1</sup> and by Dogliotti.<sup>2</sup> However, it will not be amiss to give you some idea as to how to proceed. Up to the present time we have used this method in more than 150 cases and expect to continue until we are able to arrive at some worth while conclusions.

The injection is made as any spinal puncture, except that we work as near the mid line as possible, because of the triangular peridural space posterior to the cord offers an easier access. So far we have worked from the 10th dorsal down, and have found by injecting 60 c.c. or more in the average adult that anesthesia is obtained from two to four segments on either side of the point of injection. More recently we have used 70 c.c. to 80 c.c. and find a more rapidly developing and complete anesthesia.

If gravity is to play any part in the diffusion of the anesthetic advantage should be taken of it by placing the patient on the right side when right abdominal work is contemplated. Similarly the left or elevate the shoulders, if a lower effect is desired or elevate the hips if working near the diaphragm.

The rate of injection will doubtless influence the spreading of the preparation; experience has also shown that the solution of novocaine in normal salt gives a more rapid and extensive effusion and thus better anesthesia effect than a plain aqueous solution.

One may easily determine the location of the needle point by a few simple maneuvers.

When it is apparent that the needle has reached the proper depth spinal fluid is sought by removing the stilette or when thus removed attach the syringe and try to withdraw fluid, failing in both of these attempts is proof that the needle is outside the dura. To ascertain further the location of the needle point an attempt is made to inject salt solution; if the needle is still in the ligament no solution will enter without great pressure on the plunger. When the above efforts fail the needle is gently driven to a greater depth and when the epidural space is reached a surprising thing occurs, for it is read-

ily noted then that the salt solution enters almost by suction at least without any appreciable pressure on the plunger. At times a definite negative pressure is in evidence. Soresi also described this phenomenon in February of last year. If perchance the needle enters the dura we immediately withdraw it and enter the canal one segment above or below and proceed as in other cases.

So far we have used only novocaine 1 per cent. with 10 to 15 minims of ephedrine or adrenalin. It is our purpose to try other anesthetic preparations in the near future, and later report our results.

There is no necessity of placing the patient in any other position than that most suitable for the operation contemplated, unless it is desirable to cause further extension of the anesthetic preparation by gravity.

*Results:* We have obtained anesthesia in every case, not always complete but since we have learned the necessity for using 60 c.c. or more instead of 45 c.c. as we did in our early work, and waiting 15 minutes or more our work has been approaching a hundred per cent. efficiency and the relaxation approaches that of spinal anesthesia.

*Types of cases:* We have used the method in many hernias, hydrocele, cryptorchidism, appendicitis different types, colostomy, oophorectomy, femoral hernia, anorectal work, common duct stones, gastroenterostomy, generalized peritonitis, large post-operative hernia, and in nearly every type of abdominal operation.

*Reactions:* Feeling of weakness or fainting with small pulse and manifest general weakness has been evident in a few cases, but we are confident that this in a major part is psychic, as they were always transient and not accompanied by vomiting or other more serious manifestations.

No serious reaction has occurred except in a poor risk patient with a strangulated femoral hernia. She was 67 years old with a blood pressure of 165/80 with a urea nitrogen of 65. In this case adrenalin and salt solution intravenous was necessary to revive the patient, and we are convinced that a poor surgical risk patient that has not responded to normal salt and adrenalin should be considered a contraindication to this type of anesthesia—at least until we are better able to evaluate the general systemic effects.

One case total failure—after opening abdomen



patient manifested a scapolomine jag and was determined to get off the table, not complaining of pain but could not be controlled. General anesthesia was administered and late in the afternoon he asked when he was to be operated on and had no recollection of leaving his room.

The time the anesthesia remains effective is approximately the same as in all types of infiltration anesthetics averaging about one and a half hours and the skin is desensitized from the nipples to the knees in all abdominal work, and patient can always move his feet.

**Blood Pressure:** In all types of anesthesia the range of vascular tension is a very important factor and it is essential that it be maintained within certain well recognized levels.

Every surgical patient under any type of anesthetic will sustain himself to the best advantage when his blood pressure remains relatively near that which existed during his normal activities. A hypertension individual will not long carry the burden of anesthesia when his vascular tension drops to or well below a regular normal level, nor will the poor risk patient sustain himself for long when the anesthesia produces a still further reduction of his vascular tension.

Thus the importance of a blood pressure determination in surgical patients and the value of a knowledge of the individual's tension during every day life, should be fully appreciated.

In several cases we have found no appreciable change in blood pressure readings during the entire operative procedure.

In the bad risk cases associated with fever and peritonitis there has been a marked drop in the vascular tension but we experience but little difficulty in keeping it at a safe level by the free use of adrenalin. Our experience leads us to believe that whatever the surgical problem may be, when dealing with abdominal surgery, that, aside from regional infiltration peridural anesthesia carries a greater margin of safety than any other method.

**Contraindications:** We have not been able to give this phase serious thought but realize as we all do that many cases are better suited to other types of anesthesia, and that no one method is applicable to all. We are of the opinion, however, that in every case, adequate vascular tension indicates safety.

During our work along this line we have used the subarachnoid method quite frequently, ether

at the County Hospital, ethylene gas in private work and believe that our opportunities for observing results have been ample to justify unbiased conclusions. As an example in one single day, which was not premeditated, I used five different methods of anesthesia in that number of cases. Having used local infiltration in one case of rib resection in addition to the above mentioned methods.

**Conclusions:** Efficient anesthetic procedures are at our command but frequently without an expert anesthetist we are greatly handicapped.

We are convinced that the surgeon is the responsible individual in the application of all types of anesthetics.

We are equally certain that when our greatest emergencies arise in surgery a trained anesthetist is not always standing by.

The extension of the principles of perisacral anesthesia to the use of peridural anesthesia for abdominal and chest work offers tangible possibilities worthy of our serious consideration.

Extensive wholesale nerve block by the peridural method is obtainable and is all but free from hazard.

Small costs, few instruments, and the absence of trained assistants, are factors of great importance during these trying times.

The safety of subarachnoid anesthesia has not approached that of regional or local nerve block.

Further study, improved technique, more effective anesthetic solutions are necessary to establish a standard of values.

#### BIBLIOGRAPHY

1. Soresi, A. L. Med. J. & Record. One hundred thirty-five: 165-166, 1932.
2. Dogliotti, A. M. Am. J. Surg. Twenty: 107-118, 1933.

#### OCULAR SIGNS AND FINDINGS IN EXOPHTHALMIC GOITER\*

ELIAS SELINGER, M. D.,

CHICAGO

None of the numerous ocular signs that have been described in exophthalmic goiter can be considered pathognomonic if we remember that in order for a sign or symptom to be pathognomonic, it has to be always or almost always present in that particular disease and absent in other diseases. Many of the well known ocular signs of exophthalmic goiter, although occurring usually

\*Read before Section on Eye, Ear, Nose & Throat, Illinois State Medical Society, Peoria, May 17, 1933.

in connection with Graves' disease, have been observed to occur in other diseases, notably in diseases of the central nervous system and in diseases complicated by nervous instability, and even in normal individuals. Nevertheless the signs are of diagnostic importance if several of them can be discovered in doubtful cases, or if they occur in combination with one or more of the cardinal symptoms of Graves' disease before the disease is fully developed.

It is not within the scope of this paper to discuss the etiology, pathogenesis or general symptoms of exophthalmic goiter, and treatment of the ocular complications will not be gone into.

*Exophthalmos.* Of the three cardinal symptoms of exophthalmic goiter, namely, tachycardia, swelling of the thyroid gland and exophthalmos, the latter is the least constant. When present, however, it is the most characteristic of the symptoms. It occurs in 80% of cases, being most marked and most common in younger individuals although in children it is absent in about 40% of cases. It is usually bilateral and equally marked in the two eyes. Unilateral exophthalmos occurs in 10-20% of cases according to different writers. The protrusion may be unilateral for some time before it becomes bilateral, or in bilateral cases one eye may protrude more than the other. Sometimes, with more marked enlargement of the gland on one side, the exophthalmos is more pronounced on the side of the greater swelling of the neck but the opposite has been reported in some cases. The displacement is usually straight forward, a point which helps to differentiate it from proptosis due to other causes. If ophthalmoplegia is present the protrusion may be down or to the side. The onset is gradual although it has been said to come on over night or "even in a few minutes" according to Dock.<sup>1</sup> It is questionable if the condition can develop so rapidly. Only careful measurements with an exophthalmometer could give reliable data on that point. We know that the retraction of the lids, that is Dalrymple's sign, can give the appearance of proptosis. Many authors, among them Zimmerman,<sup>2</sup> have reported cases in which the exophthalmos developed after operation for relief of hyperthyroidism. The degree of exophthalmos is not directly related to the severity of the disease. There can be marked protrusion of the eyeball with comparatively little toxicity

and vice versa. The proptosis can be very slight or so great that the lids may not be able to meet over the cornea, and Merrill and Oaks<sup>3</sup> and others have reported cases in which the lids were unable to close over the stumps left after enucleation of the eyeball. The globe has been known to be luxated in front of the lids. The inability to close the lids and the luxation of the eyeball, although in some cases undoubtedly due to the marked protrusion of the orbital contents, is a result of the great spasticity of the muscles of the lids in cases where the exophthalmos is not so extreme. The degree of exophthalmos may vary just like the tachycardia and swelling of the gland, and it may remain for years after all the other symptoms have disappeared. In the so-called "malignant exophthalmos" the protrusion continues to increase even after thyroidec-tomy until finally the eyes are destroyed as a consequence of disintegration of the cornea. In these cases death may follow intracranial sup-puration after inflammation of the eyes, or from exhaustion.

In early cases the proptosis can be reduced by pressure over the eyes but returns as soon as the pressure is removed. It has been said that it can be made more prominent by pressure over the lobes of the thyroid gland. A sense of pressure behind the eyeballs often accompanies the exophthalmos. The degree of protrusion of the eye should be measured with an exophthalmometer. It is surprising to note that even experienced observers can be mistaken not only as to the degree of exophthalmos, but may be misled to call a normally situated eyeball proptosed. This is due to the fact that retraction of the lids can give the impression of protrusion of the eyeball while a considerable degree of proptosis can go undetected as long as the lids are not retracted. Sattler<sup>4</sup> gives his exophthalmometer readings for the normal eye as 12 to 19 mm., with 14.5 mm. as a mean for the two eyes. A. Kocher's<sup>5</sup> measurements for the normal are 8 to 19 mm., with a mean of 15.0 mm. for the right eye and 16.5 mm. for the left eye. The exophthalmometer readings are based on measurement of the distance from a baseline running between the external orbital margins to the apex of the cornea, expressed in mm. An increase above the normal values indicate the degree of exophthalmos in mm. But even the exophthalmom-



eter readings might be misleading in cases with moderate proptosis, since the upper and lower limits of the normal vary from 8 to 19 mm. Recently I saw a patient with unilateral exophthalmos in whom the measurements with a Hertel exophthalmometer were, right 19 mm., left 12 mm. The protrusion of the right eye was quite evident when both eyes were uncovered, while with the left eye occluded the proptosis of the right eye was not at all noticeable. Thus we have a situation analogous to that encountered in the measurement of the intra-ocular pressure where a so-called normal reading with a tonometer might in reality indicate a relative increase in the intra-ocular tension. Impairment of the motility of the eyeballs, if it occurs, may be on a mechanical basis, and in that case would be in direct relation to the degree of exophthalmos. There is usually no diplopia, even in unilateral cases. Impairment of the motility as a result of nerve and muscle lesions causes diplopia and will be discussed later.

Among the explanations given for the proptosis are:

1. Swelling of the extrinsic ocular muscles. Nafziger<sup>6</sup> found, in six cases of progressive exophthalmos after thyroidectomy, marked swelling of the extrinsic ocular muscles. These were three to eight times their normal size, and varied in color from pale to a deeper red with white fibrous streaks. Microscopically, they showed "varying degrees of degeneration of the muscles, fibrosis and cellular infiltration." He believes that these changes explain the proptosis. It is probable that the changes he describes are an important factor in the production of the proptosis, but other factors most likely also play a role.

2. Fatty degeneration and infiltration, together with cloudy swelling and edema of the extrinsic eye muscles due to toxic action, predisposing to exophthalmos by weakening the straight eye muscles, tarso orbital fascia and lids for displacement by venous engorgement.

3. An increased deposit of fat in the orbit, together with edema of the orbital tissues. Bristowe,<sup>7</sup> Moore<sup>8</sup> and others advocate this theory.

4. Engorgement of the orbital vessels due to vasomotor disturbances. The supporters of this theory claim that pressure on the facial vein

causes an increase of the exophthalmos. This has been denied by other observers.

5. Sympathetic irritation causing tonic contraction of Landstrom's<sup>9</sup> muscle. (These are unstripped muscle fibres running from the orbital septum to the ring of connective tissue at the equator of the eye.)

6. Spasm of unstripped muscle found in the orbit, especially Mueller's muscle, which crosses the spheno-maxillary fissure.

7. Adrenal insufficiency.

The last four theories are not sufficient to explain the mechanism of exophthalmos satisfactorily.

Among the lid signs are:

*von Graefe's sign*, which consists of a jerky movement or total failure of the upper lid to follow the eye on looking slowly downward. This sign, according to Dock,<sup>1</sup> is present in 50 per cent. of cases of exophthalmic goiter; according to others less often. Von Graefe considered it an early sign, but since then it has been found to occur both early and late. Furthermore, like the other lid signs, it may be present at times and absent at other times. It is independent of the degree of proptosis, but generally absent in the absence of exophthalmos. It has been seen to precede the proptosis and again it may remain, like the other lid symptoms, after the other symptoms of goiter have cleared up. It may be unilateral even with bilateral exophthalmos and in unilateral exophthalmos it is generally found on the side of the protrusion only. Sharkey<sup>9</sup> found it in two per cent. of 613 cases of diseases other than Graves' disease. Variations of this sign have been described. In Ramsay's<sup>10</sup> case the upper lid lagged for a few seconds and then shot upwards, exposing a rim of sclera, while in Pässler's<sup>11</sup> case the lagging lid caught up with the eye on maintaining the downward gaze and then, on looking up, shot upwards ahead of the eye. This sign can be explained on the basis of a spastic contraction of the sympathetically innervated musculus tarsalis superior as a result of sympathetic irritation.

*Dalrymple's sign* is a retraction of the upper lid, resulting in a widening of the palpebral fissure and giving the characteristic terrified expression. It is found in 65 to 85 per cent. of cases if the patients are under observation long

enough and, like Graefe's sign, is independent of proptosis, may be unilateral or bilateral in unilateral or bilateral exophthalmos, may be present before exophthalmos develops and may remain after the other symptoms have all disappeared. Like Graefe's sign it may be found in disorders of the nervous system as brain tumors, hysteria, myasthenic paralysis, bulbar palsy, paralysis agitans, ophthalmoplegia and others. It is explained on the basis of spasm of the levator palpebrae superioris.

*Stellwag's sign* consists of an infrequency or incompleteness of winking. Normally there are three to ten closures of the lids per minute. In exophthalmic goiter several minutes may elapse before the lids close or, where normally the upper and lower lids meet, in this condition there may be only partial closure of the lids. Kocher found it present in 45 per cent. of cases; others less often. It is usually associated with one of the other lid signs. Partial loss of corneal sensitiveness has been described with it and it is said to predispose to the formation of corneal ulcers. The following explanations have been advanced for its occurrence:

1. Lessened reflex irritability of the cornea and retina.
2. A lesion of the reflex centers governing the retina, cornea and conjunctiva.
3. Insufficiency of the orbicularis rather than an overaction of the levator.

*Rosenbach's sign* is a fine fibrillary twitching of the upper lid on gently closing the lids. It is not present in sleep and has been found in neurasthenia and other nervous disturbances. It might be explained on a basis of disease of the muscle fibres of the lids.

*Hill Griffith*<sup>12</sup> described a retraction of the lower lid. In three cases he found it associated with a similar retraction of the upper lid, in two cases alone. The explanation is the same as that for retraction of the upper lid.

*Harold Gifford*<sup>13</sup> spoke of a difficulty in everting the upper lid. This he observed in early cases with only moderate exophthalmos. The explanation is that because of a spasm of the sympathetically innervated levator the lid lags on looking down and thus the eversion becomes difficult.

*Kocher* noted in a few cases a retraction of the upper lid when the patients fixed a stationary

object. Another sign described by him is a convulsive retraction of the upper lid when the eye follows an object that is briskly moved up and down.

Signs not referable to the lids:

*Moebius' sign* consists of an insufficiency in convergence. On bringing an object towards the eye, while the patient fixes on it one of the eyes is seen to diverge before the normal near point is reached. This sign is said to be independent of muscular paralysis or the degree of exophthalmos, although it can be found in high degree of proptosis due to other causes. *Sattler*<sup>17</sup> found it in 6 per cent. of a series of 78 patients with Graves' disease.

*Suker* noted that in some cases "on gentle fixation of the lower lid while the patient is looking downward, if the traction is maintained while the patient looks upward, the globe ascends with an unsteady excursion. In other cases there is a deficient complementary fixation in lateral eye rotations."

*Wilder*<sup>14</sup> observed a peculiar jerking movement of the eyes at the instant of changing the movement of adduction to that of abduction. It is best elicited by having the patient follow the point of a pencil as it is moved from side to side. He was able to elicit this sign in all his cases and found it to occur even earlier than von Graefe, Daldymple and Stellwag signs. He explains it on an excitation of the sympathetic nervous system by a toxin as in the Graefe sign.

*Joffroy's sign* is the absence of wrinkling of the forehead when the patient is asked to look up while the head is bent forward.

*Lowe's phenomenon* is a dilatation of the pupil on instillation of adrenalin into the conjunctival sac. It is explained on the basis of stimulation of the sympathetic.

*Muscle pareses* have been described by various authors and the lesions localized to the nuclei and fasciculi. It is doubtful, however, if a true paralysis of the ocular muscles on the basis of nerve lesions does occur. Paralysis of the intrinsic ocular muscles has not been observed, and this, together with the changes in the extraocular muscles to be described presently, speaks for a purely peripheral muscle involvement.

I have seen two cases in which diplopia developed two months and one year respectively after thyroidectomy. One was in a man 58 years of age on whom a diagnosis of hyperthyroidism was made three years before a thy-



roidectomy was performed. His general health improved after removal of the thyroid gland in 1927, but one year later he developed diplopia. Diplopia tests showed a typical left inferior rectus paralysis, but 6 months later the picture had changed so that there was double vision in all planes with the distance between the two images varying constantly during examination. The other patient, a woman of about the same age, had a thyroidectomy in 1927, one year after a diagnosis of hyperthyroidism was made. Two months after the operation she developed an atypical diplopia with double images in all planes and varying in their relation to each other during the test. In neither case was there any proptosis at the time of development of the double vision and in neither case could a paralysis of any one of the nerves supplying the extrinsic ocular muscles satisfactorily account for the diplopia. Changes in several of the extra-ocular muscles themselves, on the other hand, explain the atypical diplopia without any difficulty. Diplopia can come on early in the disease, but is oftener a late complication and is found in cases with severe toxic symptoms. As the two cases just mentioned illustrate, it can come on a number of months after thyroidectomy.

Kubik<sup>15</sup> found that in cases with extreme proptosis an oblique paresis can be simulated by the forward displacement of the center of rotation of the eye. Normally the superior and inferior obliques are inserted into the posterior aspect of the sclera posterior to the physiological origin of the superior oblique (trochlea) and the corresponding anatomical origin of the inferior oblique, so that they run temporally and backwards. If the exophthalmos is extreme, the eyeballs may be pushed so far forward that the point of attachment of the obliques comes to lie anterior to their physiological and anatomical origin, respectively, and in that case the muscles run forward and temporally from their points of origin. Contraction of the superior oblique under those conditions would result in elevation of the cornea, while contraction of the inferior oblique would result in depression of the cornea. Faulty action of either one of these muscles due to changes in the muscle fibres could then easily be ascribed to the wrong muscle.

Silcock<sup>16</sup> and others found, on microscopic examination, fatty infiltration and fatty degeneration together with cloudy swelling in the extra-ocular muscles, while Nafziger<sup>6</sup> in his six cases operated on for progressive or malignant exophthalmos of hyperthyroidism noted that the muscles were three to eight times their normal width, looked very pale and microscopically showed inflammatory changes.

*Epiphora* without local cause such as conjunctivitis or disturbances of the tear passages have been described. It may be bilateral or unilateral and may occur only at night. In some cases it has been associated with headache. It is usually an early symptom and has been known to precede the other symptoms of Graves' disease. Although in some cases the epiphora due to displacement of the puncta by the proptosed eyeballs, in other cases it is caused by a vasomotor disturbance and as such has been known to occur even in the absence of exophthalmos.

*Dryness* of the eyes is a late symptom and may follow an early epiphora. Increased evaporation of the tears because of the widened palpebral fissure together with a lessened excitability of the excretory fibres supplying the lacrymal gland accounts for this complaint.

*Injection* of the conjunctiva without catarrh was noted by Goldzieher<sup>17</sup> to precede the development of proptosis.

*Toplanski*<sup>18</sup> noticed a pale red to bluish band two to three mm. in width along the insertion of the four recti muscles in two cases before there were any other symptoms, and correctly prognosticated the development of Graves' disease.

*Edema* of the skin of the lids as a unilateral and bilateral occurrence, lasting from one day to many months, occurs. The Quinke's type of edema is on an angioneurotic basis, while the more lasting type is thought by Vigouroux<sup>19</sup> to be caused by a laxity of the fibers of the orbicularis as a result of paresis of this muscle. He cured it by electrical stimulation of the muscle.

*Corneal ulceration* occurs in cases with severe toxic symptoms. Satler mentions forty cases, in nine of whom there was total destruction of the eye. The prognosis is bad in these cases, not only as to sight but also as to life, the patients dying from purulent intracranial complications or toxemia of the goiter. Lack of protection of the cornea by the lids is a factor in some cases with marked proptosis, but in others there is a toxic factor, possibly of the neuroparalytic type, as the cornea has gone on to disintegration, even though the lids were sutured together prophylactically before there was any evidence of corneal involvement. Diminished sensibility of the cornea and conjunctiva said to occur in the late stages predisposes to corneal ulceration.

*Loss of the eyebrows* and cilia, pigmentation

of the skin of the lids, vitiligo, anisocaria, mydriasis and miosis of the pupils, alternating mydriasis and miosis as well as hippus (oscillating differences in the size of the pupils on looking straight ahead), increased frequency of winking, Horner's syndrome and many other phenomena have been described and accounted for by paralytic or irritative lesions of the cervical sympathetic.

*Neuritis of the optic nerve* as well as retrobulbar neuritis have been described by Ramsay and others.

*Optic atrophy* was noted to occur. That it is due to hyperthyroidism seems to be proven by the fact that a similar atrophy has been noted after prolonged use of dried thyroid gland taken internally as a cure for obesity. Birch-Hirschfeld on feeding dogs thyroid for a long time found a gradual development of pallor of the optic nerve head and histologically a degenerative change in the retina and optic nerve.

*Pulsation* of the retinal arteries and widening of the veins as first described by Becker<sup>21</sup> was noted in eight of 80 cases by Sattler, but the latter thinks that it is a rare occurrence.

*Nystagmus* is exceedingly rare, and if it occurs is probably due to the same causes as the fine tremor of the hands.

*Brilliance* of the eyes, observed by Romberg and Henoch,<sup>22</sup> Stokes,<sup>23</sup> et al., is a striking sign and probably explained by a widening of the corneal reflex as a result of the widened palpebral fissure. In cases with increased tearing, the moist appearance of the eye adds to the bright appearance.

*Bruit* over the orbit as a result of dilatation of the orbital vessels has been described, but is denied by competent observers. The sound produced by the action of the muscle fibres might be mistaken for a vascular bruit.

Many other changes have been described, but it is probable that most of them are merely accidental findings in Graves' disease.

#### CONCLUSIONS

In conclusion, it can be said that a knowledge of the ocular signs of Graves' disease will often aid one in the diagnosis in doubtful cases, while a proper appreciation of the ocular complications will help one to evaluate their significance and thus avoid on the one hand a too

optimistic prognosis with complications that might prove serious not only to sight but also to life, and on the other hand to attribute too serious consequences to complications of minor importance.

55 E. Washington St.

#### DISCUSSION

Dr. Elias Selinger, Chicago (closing): Dr. Suker mentioned the fulminating cases in which corneal opacities as a result of inflammation precede corneal necrosis with loss of vision. But there are other cases without exogenous inflammation of the cornea, where the eye goes on to destruction, even if the lids are sutured prophylactically. These cases are probably on the basis of neuromuscular changes. As far as muscle changes are concerned, peripheral lesions in the muscle fibers themselves explain the findings far more satisfactorily than central changes. The two cases I described above illustrate this point.

It would be well to state, before closing this paper, that the pathological findings in the extra-ocular muscles described by Nafziger in his cases of malignant post-operative exophthalmos are possibly different from the changes found in ordinary exophthalmos of Graves' disease.

#### BIBLIOGRAPHY

1. Dock: Osler's System of Medicine, 1915, Vol. 4, p. 863.
2. L. M. Zimmerman: Amer. Jour. Med. Sci., 1929, Vol. 178, p. 92.
3. H. G. Merrill and L. W. Oaks: Amer. Jour. of Ophthal., March, 1933.
4. H. Sattler: Graefe-Saemisch Handbuch der Augenheilk., 2 Aufl., Bd. 9, 2 Abt.
5. A. Kocher: Mitteilungen aus d. Grenzgebieten d. Medizin u. Chirurgie 9, pp. 1-304.
6. H. C. Nafziger: Arch. of Oph., Jan., 1933.
7. J. H. Bristowe: Trans. Ophth. Soc. U. K., 1886, Vol. 6.
8. R. F. Moore: Lancet, 1920, p. 701.
9. J. S. Sharkey: Lancet, 1890, Vol. 2, p. 877.
10. M. A. Ramsay: The Glasgow Med. Jour., Vol. 36, pp. 81 and 178.
11. H. Pässler: Deutsche Zeitschrift f. Nervenheilk., Vol. 6, p. 210.
12. A. Hill Griffith: Trans. Ophth. Soc. U. K., Vol. 6, 1886, p. 61.
13. Harold Gifford: Ophth. Record, 15, No. 6, p. 249, and No. 10, p. 492.
14. W. H. Wilder: In discussion of J. H. Claiborne's paper in Jour. A. M. A., Sept. 25, 1920.
15. J. Kubik: Klin. Monatsbl. of Augenh., 1925, Vol. 74, p. 289.
16. Silcock: Trans. Ophth. Soc. U. K., 1886, Vol. 6, p. 103.
17. Goldzieher: Therapie der Augenkrankheiten, 2 Aufl., p. 415.
18. Toplanski: Quoted by H. Sattler in Graefe-Saemisch Handb.
19. R. Vigouroux: Academie de Med., Vol. 18, p. 12.
20. A. Birch-Hirschfeld and Nobuo Isouye: Arch. of Oph., LXI, p. 499.
21. O. Becker: Wiener Med. Wochenschr., Vol. 23, Nos. 24 and 25, pp. 565 and 589.
22. M. H. Romberg and E. Henoch: Klin. Wahrnehmungen & Beobachtungen, Berlin, p. 178.
23. Stokes: Diseases of the Heart: Dublin, p. 229.



## SOME OF THE ESSENTIALS IN THE DIAGNOSIS AND TREATMENT OF URGENT ACUTE APPENDICITIS \*

E. S. MURPHY, M. D.

DIXON, ILL.

The epoch making work of Fitz of Boston in 1886 on the pathology of appendicitis established a firm basis for the modern day treatment of it.

According to Osler, appendicitis is the most frequent inflammatory lesion of the abdomen.

In the registration area of United States in 1925, there were 15,618 deaths, or a rate of 151 per million, from appendicitis alone. In England, from 1901 to 1928, the death rate has risen from 38 to 73 per million. At the present time, England's death rate is only about half of what it is in the registration area of the United States.

The late J. B. Murphy emphatically taught his students that the patient or the doctor was to blame for every death from appendicitis.

An excellent man, who sat at the feet of Murphy, treated himself for indigestion for ten days plus frequent use of citrate of magnesia as a cathartic, then consulted me on the 10th day after the onset of his illness, at which time he had a well-developed periappendicular abscess. It was drained, and he died eleven weeks later from a pulmonary embolism.

Acute, primary appendicitis usually begins with pain in the epigastrium for the first few hours, and then shifts to the right iliac region. Sometimes it will remain in the epigastrium as long as 24 hours or even longer. From the onset, nausea is usually present and, frequently, vomiting. Fever may be absent or present during the first 24 hours. However, there is usually a rectal temperature soon after onset of 99 to 100. The mouth and axillary temperature is frequently normal during the first 2 hours. Localized tenderness is usually present over the McBurney region from a few hours to 2 hours after onset of pain.

Leukocytosis is usually present but may not be. Usually, if there is important inflammatory change in the appendix, some of the polymorphonuclears will be larger in size and their nuclei will present a black, biologic, skein-like appearance, and on some occasions the primitive blast will be present.

I began to recognize the importance of the appearance of the leukocytic cells about 1911. I made the interpretation directly from the counting chamber in the ordinary  $\frac{1}{2}$  per cent. acetic acid solution under low power. Since then, I have found this very helpful. In the earlier days, I was my own technician and was obliged to take my microscope to the home in order to enable me to make my decision there and then at the bedside. For further advancement and refinement in the blood examination, may I refer you to Schleip's and Schilling's works on this subject, with which I am sure you are now quite familiar.

The inflammatory process may rapidly progress with a low temperature to involvement of the periappendicular structures and early perforation, resulting in a localized or widespread, general peritonitis. After perforation, a localized peritonitis may go on to complete resolution or the formation of an acute abscess, depending largely on the resistance of the patient and the virulence of the organisms involved in the inflammatory process.

Appendicitis may become secondarily involved from a local pelvic infection, or cellulitis in the neighborhood of the appendix, but then it is never so serious and never so disastrous because it begins on the outside instead of the inside.

When it is primary or secondary to an acute colitis characterized by cramps and diarrhea, great caution must be exercised in the examination and the differentiation before excluding appendicitis, because this type frequently leads to gangrene and early perforation. It is usually characterized by tenderness over the cecum and the appendix, and little or no tenderness over the transverse, descending and sigmoid colons, plus a characteristic neutrophilic leukocytosis.

On the foregoing, one is justified in making a diagnosis of acute appendicitis to be followed by immediate operation, as one will be rarely disappointed in finding an urgent appendix.

A metastatic appendicitis secondary to a tonsillitis, a pneumonia, or any other infection, as a rule, is a very grave lesion, since it usually begins in the blood vessels supplying the appendix. A destructive thrombosis is among the earliest manifestations, usually with a widespread involvement progressing rapidly to the stage of gangrene and early perforation. The onset of

\*Read before Section on Surgery, at Peoria, May 17, 1934.

pain is usually severe and the fever is usually higher and frequently accompanied with a chill, plus the usual symptoms of the primary forms. However, the localized tenderness occurs earlier and is usually more pronounced.

In the retrocecal or retroperitoneal form, its symptomatology proceeds in the usual order except there is no early localizing symptom, until the disease has progressed to a serious stage and the peritoneum becomes involved. In this form, one must depend upon the orderly progress of the symptoms and the character of the leukocytosis. This type of appendix should be operated on early in order to avoid the usual disasters that follow late operation when the appendix occupies this position.

Doctor Fraser of the University of Edinburgh has emphasized a form of appendicitis that is rarely mentioned; that I have never heard properly discussed only by him, and it is a form that I have frequently observed. It is Doctor Fraser's experience that when its characteristic symptoms have been emphasized, as they have been by him to the physicians in the neighborhood of Edinburgh, the patients are referred before perforation occurs. It is characterized by severe pain, as a rule around the umbilicus, plus a moderate degree of shock, nausea and vomiting of a similar degree to obstruction elsewhere in the digestive tract. For the first few hours there is no rectal fever. During the first few hours, there may be no leukocytosis, but, I have invariably found some increase in the size of some of the neutrophils, and the biologic skein-like appear-

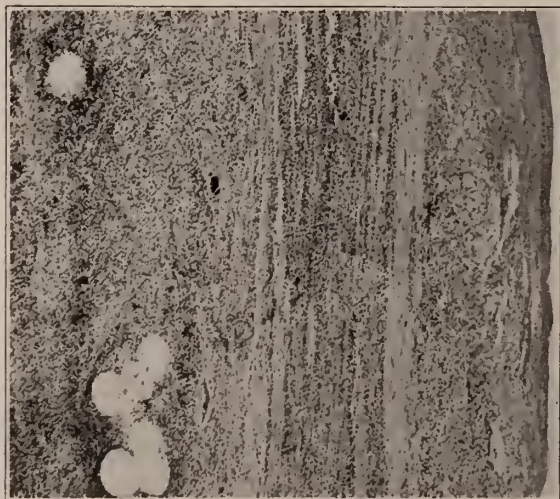


Fig. 1. (a) Mr. H. Muscularis before perforation.



Fig. 2. (a) Mr. H. Erosion of mucosa before perforation.

ance of the nuclei, such as occurs in a primary appendicitis. Doctor Fraser states most emphatically, if an appendectomy is not performed within the first 12 hours, it will perforate soon after.

Many years ago, the late A. J. Oschner of Chicago stressed that appendicitis accompanied by very acute pain usually was accompanied with a fecalith and lead to early perforation. No doubt, this was the same form that Fraser classed under obstructive appendicitis.

*Silent, Chronic, Ulcerative Appendicitis Complicated with Perforation.* This type of appendicitis is usually preceded by a history of recurring attacks of appendicitis, and sometimes there is no history of indigestion or a previous attack. When the patient is apparently in good health and following his usual occupation, he may be suddenly seized with very excruciating pain, more severe than he ever experienced before, in the region of his appendix, very similar in onset to the perforation of a gastric or duodenal ulcer. It is characterized by the pain just mentioned, nausea, vomiting, frequently collapse, marked localized tenderness and followed by fever usually higher than with the usual cases of appendicitis. Irritation from a large fecalith in the appendix is sometimes responsible for this ulcer. It is, therefore, well to keep in mind this form of appendicitis in making a prognosis before operation.



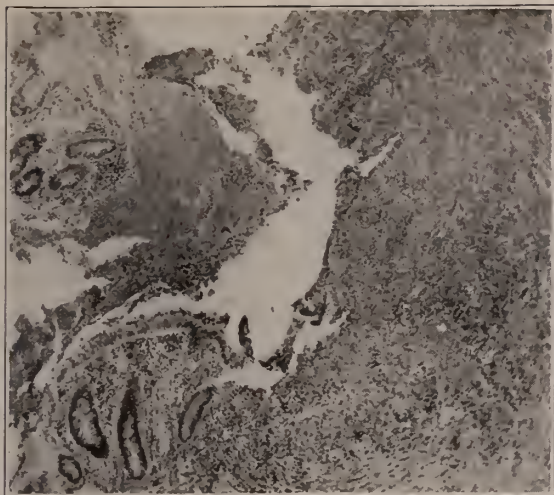


Fig. 3. (b) Mr. D. (after perforation). Showing erosion of mucosa.

*Differential Diagnosis.* In renal colic, the pain is referred down the thigh, or towards the bladder, as a rule. This is also sometimes the case with appendicitis. However, the pain in renal colic is more acute, as a rule, the temperature usually subnormal and the urine usually contains occult blood as revealed by the microscope.

In pyelitis, acute exacerbation is usually ushered in with a chill and high fever and the urine contains pus.

Acute pancreatitis may simulate at times acute appendicitis, but as a rule, it offers little trouble in the differentiation.

Rupture of an ectopic pregnancy, tubular disease or free hemorrhage from a ruptured Graafian follicle sometimes simulates an acute appendicitis, but a careful history and examination usually excludes these lesions, even though, blood in the free peritoneal cavity always causes a leukocytosis and usually about the same amount of fever as an acute incipient appendicitis.

When you meet a patient a few hours after the perforation of a duodenal or gastric ulcer, and the leakage has reached the right iliac fossa, the symptoms then presented, frequently simulate acute appendicitis, but if a careful analysis is made of the past and present history, it will offer little difficulty, as the pain from the former is usually referred from its contact with the diaphragm and its phrenic nerve supply to the trapezius region of the shoulder and the cervical region of the neck; on account of the origin of

the phrenic nerve from the 3rd, 4th and 5th cervical.

I find pneumonia complicated with pleurisy or a tuberculous pleurisy the most dangerous stumbling block, as the pain is so frequently referred to the right iliac fossa. Here again, a careful examination of the chest and abdomen will usually reveal the true nature of the lesion, except they co-exist together, which is very rare. However, in an acute gangrenous appendicitis, in elderly people and sometimes in young adults, I have frequently found that a few rales will be audible in the base of the right lung and sometimes in both, with marked localized tenderness of the right iliac fossa. If the hands are deeply pressed, one below the costal arch and one over the appendix, and the hand is suddenly withdrawn from the subcostal region without much pain, and with excruciating pain when suddenly drawn from the right iliac region, then this is typical of appendicitis and not of a primary lung lesion. These rales may be of hypostatic or embolic origin. With the foregoing findings, I have found, invariably, a gangrenous or perforated appendix.

I have met cases on which the attending surgeon refused to operate, but always the operation or the autopsy revealed the true nature of the disease. On the other hand, I have been frequently called to operate on children especially, when there was an unmistakable evidence of pneumonia complicated with pleurisy, and here again, the subcostal pressure and the pressure over the appendix will clearly make the distinction.

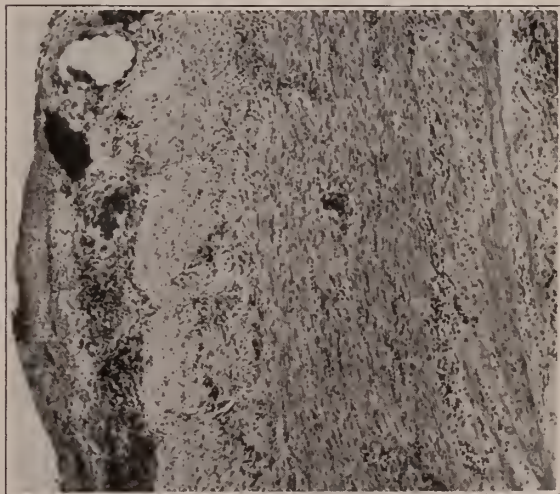


Fig. 4. (b) Mr. D. Serosa and muscularis of perforated appendix.

*Treatment.* In the treatment of appendicitis, I am in full agreement with Doctor Osler, that there is no medical treatment for appendicitis, and that "the surgeon is often called too late, never too early."

My experience on appendicitis is limited to 1,523 cases.

If an acute primary appendicitis is diagnosed within the first twelve and usually the first twenty-four hours and promptly operated on, the mortality will be nil. If, on the other hand, operation is not performed until the lapse of 36 to 72 hours, there is likely to be a mortality of 2 or 3 per cent., and it will rise rapidly from this point on. If the inflammatory process is of a gangrenous, destructive type, of course, the ones that go on to resolution without the formation of an abscess or a destructive phlegmonous inflammation will recover.

When a local abscess is formed retroceally, where there is a large periappendicular cellulitis plus a good-sized swelling, it is good practice not to aggravate this lesion by trying to enucleate it; no more than it would be to disturb a similar cellulitis in the upper extremity or neck, as has been so often demonstrated by Doctors Kanavel, Koch and other eminent surgeons.

In conditions of this kind, I have found it good practice to place a gauze pack inside a rubber dam similar to a Heineke-Mikulicz drain, except the envelope is rubber dam instead of gauze, in order that nature may have time to construct a biologic conduit from the seat of infection to the external abdominal wall. The time necessary for the construction of this is usually from 5 to 7 days. I usually leave it in situ from 5 to 7 days, usually the latter. The gauze is first removed and then its rubber envelope, without injury to the biologic conduit or reopening of the peritoneal cavity.

This, of course, is a procedure that should be avoided by early operation whenever possible, but when it is necessary it has lowered my mortality. In fact, I have had only one death in many cases treated this way, and that death occurred when I reopened for the removal of the appendix 3 months afterwards. The appendix had ruptured in its middle and a mucocoele developed distal to the rupture where the fecalith was still partially protruding from the lumen and the appendix was lying in intimate contact with the iliac vein.

The serosa was split on its convex surface and the muscularis and mucosa of the appendix was carefully enucleated and the remaining cleft was closed with a No. 00 iodized cat-gut suture in order to support the wall of the iliac vessels.

The patient never vomited after the operation and suffered little or no pain, and there was no evidence of complicating peritonitis, but the patient died from a blood stream streptococcus infection. The autopsy revealed no peritonitis and no local suppuration in the bed of the appendix. The patient died 72 hours after the operation with a temperature of 107. Her post operative record was also complicated with oliguria.

The retrocecal, or retroperitoneal and ilio-colic types of appendicitis should be operated upon very early, always before abscesses form and as shortly after perforation, otherwise, the best treatment, in my hands, is to build a conduit as previously described.

The obstructive type, as all other types should be diagnosed early and operated on within the first 12 hours in order to avoid the serious complications which follow late operation.

The silent, chronic ulcerative types should be operated on as early as possible after onset of symptoms. This, of course, is true in all forms of appendicitis.

Perforation is no contraindication for operation, but an urgent indication for immediate operation, and a complete appendectomy should be done whenever possible, except, there is a large inflammatory mass of cellulitis or a walled-off abscess, then, I think, it is better to establish a biologic conduit than to take the chance of soiling the peritoneal cavity.

1,523 appendectomies were performed from 1913 to 1933. Among this group were 368 cases of acute suppurative gangrenous appendicitis; 262 of these were not drained and there were no deaths. Of the 106 late cases which were drained, 5 patients died of general peritonitis, or a mortality for the acute suppurative gangrenous group of 1.36— per cent. or for the drained group of 4.7+ per cent.

The following photo-micrographs portray 2 cases of acute suppurative gangrenous appendicitis, (a) before rupture and (b) after rupture, which are representative of the cases herewith discussed.



## (a) 20746—Mr. H. (before perforation)

The mucous membrane is destroyed completely except for occasional small remnants of gland tubules. The lumen contains necrotic and bloody material. There is a diffuse infiltration of the wall of the appendix with polymorphonuclear leukocytes. Here and there are small foci of purulent softening; also areas of hemorrhagic extravasation.

## (b) 20045—Mr. D. (after perforation)

The mucous membrane is destroyed in large part. There is extensive hemorrhagic extravasation in all parts of the appendix; including the outer layers. There is infiltration of all layers of the wall with polymorphonuclear leukocytes but the muscular coat is still easily recognizable. The process gives the impression of extending outward from the lumen and the inner layers of the wall.

## STUTTERING, ITS NATURE AND MECHANISM\*

MEYER SOLOMON, M. D.

CHICAGO

By stuttering I mean that intermittent speech disorder which is characterized by transient breaks in the rhythm of speech with spasmodic action of a part or parts of the speech apparatus anywhere from the diaphragm to the lips, with a temporary inability to produce sound or articulate speech (vowel or consonant or both), or with a repetition of a sound, syllable or word and temporary inability to pass to the next sound, syllable or word. This is accompanied by internal mental struggle; generally expressed by observable bodily manifestations of varying degree. In the intervals between these recurrent attacks, speech is apparently normal.

Although the terms stuttering and stammering are often used interchangeably, they are also often used in different senses, stammering even being used by some for disorders of articulation, including lisping. Furthermore, stammering corresponds with the German word *stammeln* and stuttering with *stottern*. For these reasons, I prefer the term stuttering to stammering for the speech disorder under consideration.

Because of the frequency and importance of the problems of stuttering, it is most important to arrive at the basic facts concerning the nature, mechanism and etiology of this disorder. Unfortunately at the present time there are most diverse and conflicting views in this field. Perhaps a brief review of the situation and a presentation of my personal views, which are in harmony, in most, if not in all respects, with the conclusions of several others, are in order.

*Current Conceptions of Stuttering.* Adopting the classification of Bluemel<sup>1</sup>, there are three main types of theory of the causation of stuttering, namely, 1. anatomical, 2. physiological, and 3. psychological.

1. The theories which attribute stuttering to gross pathological anatomy of the speech organs, and which are mainly echoes from the past and for the most part now since discarded, include ideas concerning the need of operation on the frenum, tonsils, adenoids and nasal septum, as well as supposed disease of the neurons and thymus. What may be called the Orton-Travis theory<sup>2</sup>, namely of conflict between the cerebral hemispheres for unilateral cerebral dominance or lead is, in my opinion, as much anatomical as physiological, and certainly not really psychological. In spite of much splendid work done in this connection, the theory is not only not convincing but is controverted by a mass of other evidence, clinical and experimental.

J. Madison Fletcher<sup>3</sup> in his critical review of Travis' book on "Speech Pathology" has recently discussed this phase, and much more can be added in support of the contention that the Orton-Travis views as to the causation of stuttering are not only unsupported but contradictory.

2. Theories centered about the pathological physiology of speech are concerned largely with descriptions of types of spasms or physiological upheaval as manifestations rather than causation. These include disturbances of respiration (such as spasmodic contraction of the diaphragm, disturbances of the rhythm of respiration, attempts to speak on empty lungs), disturbances of vocalization (such as refusal of voice, poor management of voice, inability to produce proper tension of the vocal cords), and disturbances of articulation (such as impaired training of the organs of articulation, involuntary action of the speech organs, and excessive force in producing initial

\*Presented at the Twenty-second Annual Meeting of the American Psychopathological Association, held at Atlantic City, N. J., June 8, 1932.

From the Department of Nervous and Mental Diseases, Northwestern University Medical School.

consonants). Most scientific students now realize that the disorder of the peripheral machinery of speech is an end-result and secondary to a preliminary psychological condition.

3. The psychological theories are numerous. They may be classified into four groups—imagery, auto-suggestion, psychoanalysis and emotion.

The theory of absent or weak visual imagery proposed by Swift<sup>4</sup> as causative of stuttering fails because it has not been proven that visual imagery is a necessary preliminary to normal speaking, the blind (congenital or acquired) do not necessarily develop stuttering, it is not proven that weak or absent visual imagery is present in all or most stutterers, and even if it be present, the cause must be determined and it may be secondary to other psychological factors, such theory,<sup>2</sup> namely, of conflict between the cerebral as emotion. The same may be said of Bluemel's<sup>5</sup> theory of transient auditory amnesia.

Auto-suggestion alone is not claimed by many to be the sole cause of stuttering. Imitation and association have not been proven, unless combined with emotion, directly and unaided to produce stuttering. After stuttering has already begun, auto-suggestion, by conviction of speech inadequacy, induces fear and emotional upheaval with stuttering as an end-product, in the manner to be described below. Voluntary efforts to overcome or conceal speech difficulty are super-additions to already existing stuttering of different (emotional) origin.

There are many different psychoanalytic views, all maintaining that the cause is an active, unconscious, repressed, hidden experience or emotion, struggling for expression, and centered about long past, forgotten memories, especially early childhood and infantile, with motivation of a sexual nature (oral eroticism, anal eroticism, sadism, castration complex, incest complex, etc.). Coriat<sup>6</sup> even maintains that during stuttering, there is compulsive rythmical repetition of the early nursing activities and "the anxiety in stammerers (stutterers) when they attempt or prepare to speak is not due to anticipation or to anxiety over a specific situation, but is caused by the fear of the ego being overwhelmed by the all-powerful oral eroticism." Others have regarded stuttering as a symbolic expression through a code language, of unconscious repressed wishes.

Modified psychoanalytical views include those

of Alfred Adler's followers<sup>7</sup> who reduce stuttering to feelings of inferiority and the struggle for superiority, perhaps based on organ inferiority; the fear of expressing obscene words (Knight Dunlap)<sup>8</sup>; and the gaining of attention or excusing of failure by subconscious production of stuttering. (Blanton)<sup>9</sup>.

As to the orthodox Freudian views, different writers reduce stuttering to different complexes. The findings of the rank and file of students of speech pathology do not substantiate these views.

As to the modified psychoanalytic views, the most important one, in my opinion, is that of Alfred Adler. No one can deny the importance of feelings of inferiority and in particular of speech inadequacy after stuttering has once appeared, but it has not been shown that it is the sole cause of its onset, or even the sole cause of its recurrence thereafter.

Last but not least we come to the theory of the emotional origin of stuttering. It may be called the common-sense theory, because the average man in the street and the average mother, will give excitement or emotion as the cause of stuttering. This is the view of an increasing number of workers and is the conception I personally hold and shall develop in the remainder of this paper.

*Stages of Stuttering.* Bleuler<sup>10</sup> has divided the manifestations of schizophrenia into primary, basic or fundamental and secondary, superimposed or accessory. In like manner Bluemel<sup>11</sup> refers to the primary and secondary stages of stuttering. The primary stage may also be called the first, incipient, initial, pure, fundamental, basic or uncomplicated stage and refers to "simple disturbance of speech in which delay ensues between the commencement and completion of a word." The secondary stage which may also be called the mixed, terminal, complicated or accessory stage, consists of complications resulting from the patient's struggles to control and conceal his speech disorder, and his emotional reactions to his speech impediment. I<sup>12</sup> have referred to three clinical stages; first, the stage of pure habit, corresponding to the primary stage; second, the fear or fright stage; and third, the stage of distortion of the personality, the last two stages combined corresponding to the above-mentioned secondary stage.



*Preliminary Emotional State Responsible for Onset of Stuttering.* If emotion is defined as impulsion<sup>13</sup>, (using the term "impulsion" in the sense of excited activity or intense stirring up of the total living machine), then emotion is the cause for the onset of stuttering. In the incipient stage of stuttering, as it is observed in the child, especially in the preschool period, even before conscious attempts to control and conceal it, there exists a preliminary, antecedent and causative attitude of emotional excitement. This may be described as over-anxiety, over-intensity, over-stimulation, over-anticipation or over-enthusiasm, with an excessive sense of responsibility for the task of speaking in social situations. This over-impulsiveness or impatience in speaking in social situations is associated with a desire for the immediacy of completion of such speech expression. So great is the speech hurry and rush, that the stutterer actually endeavors to say a whole syllable, word, sentence, paragraph or even story in a single effort of speech, or from the very first position, be it correct or incorrect, assumed by the peripheral speech apparatus. The nervous and mental hypertension produces hypertension of the peripheral speech apparatus. Not infrequently there is not only an impulse to speak but definite efforts at speech expression, even before thoughts or words have come to mind. It is this emotional state which leads the child to stumble accidentally into incipient stuttering. It is this emotional state which precipitates the impediment of thought which Bluemel stresses and which transitorily disturbs consciousness with resulting transient recoil of verbal imagery or thought from consciousness, producing thought block and speech block. If and when visual imagery is disturbed in stuttering, its cause is this same emotional excitement and any disturbance of cerebral dominance or control occurring in stuttering is due to emotion with its release of impulses from subcortical centres, and the rush of consequent multiple and conflicting impulses struggling for possession of the final common path.<sup>14</sup>

Overstrain or overexcitement from any cause may be responsible. This preliminary mental state is initiated by one or many, generally, a number of cumulative factors. Among the latter may be included: the desire to keep pace with the rapid conversation of others about him; the fail-

ure of others to listen to what he says or to wait for him to speak; the fear of being interrupted; the efforts by others to hurry the child in speech; forgetfulness of the words he wishes to say; forcing the child to speak excessively or to repeat words too difficult for him; child mismanagement, with sense of shame, guilt or embarrassment; fear of others because of previous mistreatment; anger reactions; fatigue; illness; embarrassment from lisping; over-irritation and undue emotional pressure from persistent efforts to force the child to use the right hand predominantly; and the like.<sup>15</sup>

Whether there is organ inferiority of the speech centres, congenital or inherited, is a debatable question. Delayed speech development, with baby talk or indistinct speech, showing speech awkwardness or poor speech coordination, has not been proven in all cases.

Furthermore, it is especially apt to occur, perhaps even exclusively, in children who are timid, easily embarrassed, easily rattled or confused, so that there ensues the more easily emotional disorganization or disintegration with its loss of self-control during speech in social situations.

In the fully developed stutterer, there are other factors, mainly fear, which complicate the emotional state. But at all stages the preliminary mental state continues to play its roll. Conscious efforts to control and conceal the speech defect but aggravate this emotional upset.

*Proof of Emotional Origin of Stuttering.* Almost all students of this speech disorder readily admit that fear and allied emotional states may exaggerate stuttering already present, with its speech repetition and block. It is also observable to anyone that over-anxiety, fear or anger may be responsible for thought inhibition and dissociation with mental and speech confusion and block. These facts alone should be important evidence that emotion may initiate the onset of stuttering in its first or primary phase.

Of great significance is the fact that whether in young children with uncomplicated or primary stuttering or in older children and adults with complicated or secondary stuttering, stuttering is absent or present in social situations requiring speech dependent wholly and completely upon the emotional condition and attitude of the stutterer at the moment each individual sound is produced.<sup>16</sup> On the one hand, whenever emotionally

excited, no matter what the cause be, stuttering is apt to occur at those particular moments when speaking in social situations. Furthermore, there is no stuttering the moment the individual is emotionally calm and at ease. This largely explains the remarkable changes in speech adequacy occurring in the course of the stutterer's speech. This explains many other seemingly mysterious speech puzzles of the stutterer. Ordinarily no stuttering occurs during whispering because one is usually calm during its performance. Likewise, when speaking alone and when certain he is alone and cannot positively be heard by anyone, no stuttering occurs. But let the doubt of absolute isolation arise, let the suspicion creep into the mind that anyone is listening or may accidentally overhear, lack of confidence and fear may at once bring about stuttering. The stutterer is usually much better when speaking in unison, especially if he feels buried in the mass of other individuals and voices and has a complete sense of security from being overheard or detected by others even if he did fail in speech because the combined sound of the voices of all the others plus assurance that they are busy with the task of speaking in unison and have neither the time nor inclination to observe or hear him, is as a balm to his mind. It means mental tranquillity and hence normal speech. During singing the stutterer is more apt to be absorbed in the pleasure of the song, and live in it and be free from fear and self-observation, and so it is not strange that he has no speech trouble unless his interest wanders from the singing to watching the words, his speech organs or other persons. The stutterer is better or worse over the telephone, with the same or opposite sex, with older or younger persons, with relatives, friends or strangers, before a single individual, a small group or a large audience, in spontaneous speech, in speaking from notes, or reading aloud alone from a written manuscript, with certain special persons or in certain special situations—all dependent upon his particular mental condition at such times. Often, in addition to memories of past experiences in each such situation, very intangible and individual psychological elements assume extreme significance.

Let us take the question of speaking from memory and notes as compared with reading

from a written manuscript. If when speaking from memory or notes, he feels relatively at ease because he is not bound to say any special words (including "bugaboo" words or sounds) and is free to substitute easy (to him) for difficult words: if he feels that he is "safe" because he can say as little or as much as he wishes and can stop speaking at any moment he wishes, the stutterer's speaking will be much better when doing so from memory or notes than when reading from written manuscript. But if when in social speech situations requiring speaking from memory or notes, he fears that he may fail in sequential thought or have difficulty in expressing his thoughts in appropriate vocabulary, his stuttering will appear. Again if, when reading aloud before others, from written manuscript, book, newspaper or the like, he feels secure because there will be no need to think creatively at the moment and coordinate his thoughts and express them in suitable words, and that that task is already completed for him and that all he needs to do is to read the words aloud, his feeling of security and confidence and state of equilibrium will lead to non-stuttering speech. On the other hand, if, when reading aloud from copy, he feels compelled to read the exact words in the exact sequence, without variation, or substitution, even when in speech difficulty, and with the forced necessity of completing the reading of the entire copy, no matter how long it may be, a feeling of being caught or expecting to be caught in a trap, a feeling of uncertainty, insecurity and indecision, becomes dominant. Emotional excitement and fear then raise their heads and stuttering is in the center of the stage, as the mental confusion increases and the individual continues his efforts to read from copy, in the social situation in which he finds himself.

When the object of supreme interest or concern is the task or the problem and the individual is completely absorbed in his thoughts and their presentation in suitable words, without regard to others or to the peripheral machinery of speech, all is well.

The greatest frequency of stuttering in males may be mainly due to the more stimulating and exciting activities and conflicts which have been their lot from earliest childhood.

The complicating mental after-effects which



gradually appear, themselves become causes of the recurrence and continuation of stuttering. When in speech block or distress, mental confusion (with bewilderment, flurry or daze), self-consciousness (with embarrassment and shame), fear and panic come upon the scene, and increase the tendency to hurry and rush, the conflict of multiple tendencies and the peripheral speech disorder. Conviction of the existence of speech inadequacy, inferiority and incurability with a sense of helplessness and fear of stuttering, especially in relation to certain social speech situations, plays a most important role in aggravating the tendency to the preliminary mental state of excitement and hurry and the speech disorder.

*Phenomena of Stuttering.* Following the antecedent mental state, we have the disorder in the peripheral speech machinery. In addition thereto, the individual may experience or evidence: 1. Manifestations of emotion at the psychic, skeletal or visceral (vegetative) levels; 2. The results of blind, panicky efforts to conceal or overcome the speech difficulty, with embarrassment, fear, shame and self-consciousness as the dominant mental complications. These explain the occurrence of respiratory disturbances and symptoms of stage-fright, as well as the use of certain sounds or words as starters or wedges in the search for the use of synonyms, substitutions, evasions and circumlocutions, all of which are efforts at escape from being trapped by the speech disorder. Thought confusion, multiple thoughts and indecisions are the offspring of emotion, mainly fear. It is fear which spreads out its tentacles through the mind of the afflicted one, until there is a veritable fear panic in the face of certain letters, syllables, words, people, social speech in general and social speech situations.

Bugaboo sounds, syllables, words, persons or special social situations requiring speech are, in my opinion, due in the ordinary case not to some hidden wish (except it be the wish to speak normally) but to association or conditioned emotional reflexes centered about the memory of past and fear of oncoming speech difficulty or failure.

Although agreeing on the importance of mental conflicts, psychic traumata and conditioned emotional reflexes, that is, the psychogenic factors, I find in the average case no definite evi-

dence of the existence of repressed unconscious wishes of the type stressed by the Freudian psychoanalytic school as the cause of either primary or secondary stuttering. Memory of the original cause or experience responsible for the first occasion of stuttering may be for all practical purposes entirely abolished, but the conditioned reflex and the individual's reaction thereto may persist, centered about the speech difficulty and not about some supposedly still active unconscious repressed, hidden experience or conflict which was initially responsible for its inception, especially of the sexual type mentioned by the Freudian school.

The disturbing mental conflicts present in stutterers in the later stages are of consequence in three main ways: 1. No matter what the nature, whether related to the speech disorder or not, they naturally increase the general instability and thus enhance the tendency to hurry and rush in speech in social situations and so predispose to stuttering; 2. They may flow out of emotional attitudes centered about bugaboo sounds, syllables, words, situations or persons; and 3. They are part and parcel of the super-added emotional upheaval and personality reactions mentioned elsewhere in this paper and due directly to the attitude toward the speech disorder in general, with its attendant struggles to overcome and conceal any slightest manifestation of its presence.

A vicious circle is established between emotion and mental conflicts on the one hand, and the evidences of speech disorder on the other hand.

The type of mental conflicts related to the onset of the first stage of stuttering was mentioned above when discussing the antecedent emotional state.

The attitude of the average stutterer toward his speech disorder may almost be compared to that of an individual with a paranoidal state. During speech in social situations he is absorbed in the possible observation and detection by others of his speech inadequacy, pays undue attention to his speech organs, the sounds he produces and his general behavior, with fear, anger, simultaneous efforts at flight or concealment and fight or correction. Is it surprising that there is mental conflict with multiple thoughts and tendencies to speech expression starting out at

practically the same instant, all seeking or competing for possession of the final common speech pathway, with failure to inhibit an impulse after it has found partial expression? This applies not only to speech but to other bodily muscular impulses. Conflict and rivalry of thought processes, with mental chaos, discord and confusion are shown in the general behavior and in speech. The disordered speech thus reflects the nervous and mental discord.

Fully developed stuttering may be regarded as a special situation type of anticipation, anxiety or fear neurosis, comparable to professional or occupational neurosis.

The gradual distortion of personality results from fear of and shame concerning his speech disorder and efforts to hide any possible evidence of it. As time goes on or at different periods in the course of his mental development four main types of superimposed personality transformation may ensue: 1. increasingly pronounced suppression of the personality, with marked introversion; 2. over-compensation in attempts to put himself across in spite of his stuttering, with over-assertion, stubbornness and negativism; 3. an assumed attitude of indifference toward and neglect of the speech handicap; 4. a common-sense attitude with constructive efforts for gradual self-improvement and recovery.

The fact that this disorder is more apt to occur in those originally timid, easily embarrassed, and easily rattled or confused, shows that there is a personality problem to begin with and a need of personality study and guidance.

*The Peripheral Speech Machinery During Stuttering.* During normal speech the three divisions of the peripheral speech machinery (the respiratory, laryngeal and the oral mechanism), and the rest of the body as well as the mind are harmoniously coordinated. Disequilibrium, disintegration or incoordination produces the manifestations in the peripheral speech machinery and elsewhere in the body. The peripheral manifestations are skeletal and visceral. The skeletal manifestations include asynergies in the three musculatures (oral, laryngeal and respiratory) of speech with many accessory movements. What seem to be tonic or clonic spasms or cramps are really hypertonic muscles which depend on the nervous and mental condition of

excitability and tension. The skeletal phenomena have visceral accompaniments. There is no pathognomonic type of disturbance in respiration, vocalization or articulation even in the same individual.<sup>17</sup>

The great source of trouble for the stutterer occurs when he finds himself in speech block. He is aware of oncoming speech block before any evidence of it can be seen by an observer. He often has considerable trouble without noticeable manifestations. When in speech block or oncoming block or when in fear of same, he becomes confused, panicky and bewildered, may go into a mental daze or become flurried or ashamed, and may rush pell mell into sudden, frantic, wild, blind, incoordinate efforts to continue speaking in spite of the block.

The fundamental speech fault in the stutterer is that he unknowingly endeavors to produce, in fact insists on producing sounds from positions of the speech apparatus from which it is impossible for anyone else to produce those particular sounds. This is shown by two main faults: 1. the inability to produce any sound at all and remaining in complete and prolonged speech block, due to the assumption of the position of deep inspiration or expiration, holding it and attempting to produce sounds from it—an impossibility for anyone; and 2. normal production of the initial sound and repetition of it with seeming inability to advance to the next sound, be it consonant or vowel due to blind persistence and attempts to produce a second sound from the same position of the speech apparatus from which the first sound was produced—another impossibility for any human being. When no sound at all can be produced, he has taken the wrong start and cannot expect to remain in that position of the speech apparatus and produce sound until he has overcome his inspiratory or expiratory spasm and begun all over again. If successful in producing the first sound but unable to advance to the next, one of two conditions is present: either he has his mouth more or less open and is endeavoring to pronounce from this position a sound which requires a different position of the speech apparatus (that is, one with the mouth somewhat more closed) or vice versa. An example of the first is the inability to advance from the letter o to the letter v in the word "over." An example of



the second is the inability to advance from the letter b to the letter u in the word "but."

#### CONCLUSIONS

Stuttering is an emotional and personality disorder. It is due to emotional disequilibrium in social situations requiring speech with consequent struggle to maintain or regain equilibrium and accidentally stumbling into stuttering which may then become a conditioned emotional response in social speech situations. The emotional disequilibrium during speech in social relations may be induced by many factors of a psychological nature which are responsible for undue stress, strain and tension. Fear of recurrence of speech difficulty and transformation of the personality are added later, if the stuttering continues. Its scientific treatment, therefore, should be based on the conception of stuttering as an emotional and personality disorder. It requires intensive personality study and personality reorganization. The condition should be studied and managed in its earliest phase. Stuttering arising in the preschool or school period requires a careful study of the child's habits, the technic of child management, and the home, neighborhood and school influences, especially searching for causes of undue pressure and tension.

#### REFERENCES

1. Bluemel, C. S.: Stammering as an Impediment of Thought. *J. A. M. A.* 9: 1846-1848, 1931. Also Transactions of the Amer. Soc. for the Study of Disorders of Speech, pp. 27-32, 1930-31. See also Hollingworth, H. L.: *Abnormal Psychology. Its Concepts and Theories*, New York, Ronald Press, 1930, Chapt. 20, Psychology of Stuttering and Stammering.
2. Travis, Lee Edward: *Speech Pathology*, N. Y. and London. D. Appleton and Co., 1931. Some of the writings of S. T. Orton are listed in this book.
3. Fletcher, J. Madison: Review of Lee Edward Travis' *Speech Pathology*, *Quarterly Journal of Speech*, 18: 131-136, 1932.
4. Swift, Walter B.: In various publications, as for example his paper on Why Visualization Is the Best Method for Stammering, in Transactions mentioned in ref. 1, pp. 83-92; also his book, *Speech Defects in School Children and How to Treat Them*, Boston, N. Y., etc., Houghton, Mifflin Company, 1918.
5. Bluemel, C. S.: *Stammering and Cognate Defects of Speech*, 2 volumes, N. Y., G. E. Strechert and Company, 1913.
6. Coriat, Isador H.: The Nature and Analytical Treatment of Stammering, in Transactions mentioned in ref. 1, pp. 151-156, and his bibliography there listed.
7. For example, Appelt, Alfred: *Stammering and Its Permanent Cure*. Third Edition, N. Y. E. P. Dutton and Co., No year given.
8. Dunlap, Knight: The Stuttering Boy, *J. of Abnormal Psych.*, 12: 44-48, 1917.
9. Blanton, M. G. and S.: *Speech Training for Children*, N. Y. The Century Co., 1919. See also Scripture, E. W.: *Stuttering, Lispering and Correction of the Speech of the Deaf*. New York, The Macmillan Co., 1923, pp. 40-41.
10. Bleuler, Eugen: *Dementia Praecox oder Gruppe der Schizophrenien*, Deuticke, Leipzig and Wein, 1911; also his *Text-Book of Psychiatry*, Authorized English Translation by A. A. Brill; N. Y. The Macmillan Co., 1924.
11. Bluemel, C. S.: Primary and Secondary Stammering. In *Technical Papers Delivered Before the Annual Convention of the American Soc. for the Study of Disorders of Speech*, Dec. 18, 1931, pp. 99-103; also his *Mental Aspects of Stammering*, Baltimore. The Williams and Wilkins Co., 1930.
12. Solomon, Meyer: Stuttering and Stammering—Nature, Mechanism and Principles of Treatment. *Official Bulletin, Chicago Med. Soc.*, July 4, 1925, pp. 20-23; *The Mechanism of Stammering and Stuttering*, *Arch. of Neurology and Psychiatry* 15: 668-9, 1926. How to Treat Stammering or Stuttering, Jan. 1926, pp. 39-41; *Stuttering As an Emotional Disorder* in *Technical papers mentioned in ref. 11*, pp. 118-122.
13. Whitehorn, J. C.: Concerning Emotion as Impulsion and Instinct As Orientation. *Amer. J. of Psychiatry*, 11: 1093-1106, 1932.
14. Brown, Frederick W.: Stuttering; Its Neurophysiological Basis and Probable Causation. *Amer. J. of Orthopsychiatry*, 2: 362-376, 1932.
15. Blanton, Smiley: Treatment of Stuttering in the Preschool Child. *Technical Papers*, see ref. 11, pp. 122-126.
16. Also stressed by Fletcher, John Madison: *The Problem of Stuttering; A Prognosis and a Plan of Treatment*, N. Y., London, etc. Longmans, Green and Co., 1928.
17. Fletcher, John Madison: *An Experimental Study of Stuttering*, *Amer. J. of Psychol.*, 25: 201-255, 1914.

185 North Wabash Ave.

#### MULTIPLE MYELOMA\*

GEORGE B. STERICKER, M.D.

SPRINGFIELD, ILLINOIS

Multiple myeloma is a rare and fatal disease of the bone marrow. Its outstanding features are 1, an insidious onset with variable and shifting pains, usually in the back; 2, medullary tumors, usually in the bones of the skeletal trunk; 3, pathological fractures; 4, frequent nephrosis and the excretion of Bence-Jones bodies in the urine; 5, cachexia and anemia.

The disease has been known since 1845. McIntyre and Watson, in 1850, Dalrymple, in 1848, and Bence-Jones, in 1848, made a careful study of this case. Rusticky, in 1873 and Kahler in 1889, did much to increase our knowledge of the disease.

Only since 1895 have numerous cases been added to the literature of multiple myeloma and since x-rays made possible early diagnosis the number has materially increased. Something over 500 cases have been reported. By reason of its similarity to other types of bone disease it is probable that many cases have been reported which are not true myeloma, for even among the most competent observers there is lack of agreement as to what constitutes multiple

\*Read before the Section on Medicine of the Illinois State Medical Society at Peoria, May 16, 1933.

myeloma. Kolodny, in his book on "Bone Sarcoma," begins the chapter on myeloma with these words, "The voluminous and detailed descriptions in the literature of this disease are frequently based on questionable material." The disease presents such a variety of pathological manifestations, both gross and microscopic, that it is not remarkable that there is little unanimity as to the dividing lines between it and related disorders.

Multiple myeloma occurs most frequently in the 5th and 6th decades of life. It is rare under the age of 35, and some cases under 30 years including those in children, have presented findings which have cast doubt upon their proper classification as myeloma. It occurs more frequently in men—probably 70 to 80 per cent of reported cases. Geographically and racially it is very widely distributed. Only 0.03 per cent of all malignant disease is multiple myeloma. This is one in thirty-three hundred. The cause of the disease is not understood. There has been found no association with other conditions which would indicate a causative relationship.

*Clinical Characteristics.* The outstanding clinical characteristics of multiple myeloma, as stated before, are pain, widespread involvement of the bones by tumors, nephrosis, cachexia, and anemia.

The patient often has shifting and indefinite pain, usually in the lumbar spine for a number of weeks or months before he seeks medical aid. Frequently following a minor injury or an unaccustomed physical effort the first severe pain is produced. The true nature of the disability is often and perhaps usually obscure until x-ray study. Pain is most severe at two periods, rather early in the course of the disease and again in the terminal stages. Between these there is a gradual diminution of pain to a period during which there may be very little. This subjective relief is not usually accompanied by a general remission in the progress of the disease itself, and the reason for it is not understood.

After pain, the most important clinical feature of the disease is tumor formation. Rarely tumor is the first sign of disease. The tumors are found in the spine, the sternum, the ribs, the skull, the shoulder and pelvic girdles and the long bones in this order of frequency. They may be very numerous and they vary in size up

to that of a base-ball. The usual range is from one-half to two cm. in diameter. They are intramedullary and destroy bone. Consequently pathological fracture is a very common occurrence. The ribs, sternum and clavicles are most frequently broken. There occurs a spontaneous reduction in the size of some tumors and generally a very marked temporary reduction under the influence of x-ray therapy. With tumor and fracture goes deformity which is apparent in a flattening and often a compression of the spine. As a result of these the patient stands in a characteristic manner—his feet well apart, his spine straight and his abdomen protruding. His gait is slow and careful and he avoids bending. Deformity may be produced anywhere but especially in the skull by simple enlargement of tumors.

Some change is found in the kidney in about two-thirds of cases. There is often nephrosis with non-protein nitrogen retention. Albuminuria is very common, probably 85 per cent of cases. Bence-Jones bodies are found in the urine in from 50 to 65 per cent of reported cases and then often only intermittently. The diagnostic value of this finding is not as great as was formerly thought because they are found in other diseases involving the bones. When urine containing Bence-Jones bodies is heated to 50 or 60 degrees Centigrade a white cloud appears. This cloud persists as the temperature is increased up to about 90 degrees. When the heat is increased to 100 degrees it usually disappears and reappears as the temperature drops through this range to 50 degrees or somewhat below and then disappears again. The significance of Bence-Jones bodies and the more frequent albuminuria has not been determined, but is believed to be related to the destruction of bone tissue. According to Geschichter and Copeland, blood pressure data in cases of this disease are not frequent enough to warrant definite statements. The opinion which has been expressed points to a falling of vascular tension.

There is typically an anemia of the secondary type in multiple myeloma. Most cases show in the neighborhood of 2 to 3 million erythrocytes. Occasionally the anemia resembles the primary type and this has been accounted for by some observers as related to the destruction of bone marrow. There is often a relative leucocytosis



but high counts are said to be unusual and to point to secondary infection. Myelocytes have been reported in numerous cases. In general there is a relative increase of the mononuclear cells. Tumor cells have been found in the blood.

Bronchitis is the commonest pulmonary complication. Emphysema is common. They may be accounted for by cachexia and by shallow respiration especially where there is much deformity of the chest. Wherever tumor formation produces pressure on nerves neurologic symptoms may be produced. They may be in great variety but usually are associated with pressure on the spinal nerves.

*Pathology.* The gross appearance of the tumors is variable. They are gray, pink, or reddish depending on their vascularity. The consistency is soft and friable or firm, sometimes almost rubbery. As the tumors grow erosion of bone occurs and we may find an apparent enlargement of the bone, consisting of a tumor mass covered by a thin shell of bone which the periosteum has laid down over the tumor. Occasionally the tumor perforates the cortex and extends into the soft parts. There is disagreement as to whether true metastasis occurs. It is certain that tumor masses may be found in various organs, especially the liver, spleen, kidney and lung when the disease has run a protracted course. And while in some of these locations they might be considered the result of a general involvement of the hemopoietic system, it seems more reasonable to think that they are true metastases.

As is the case in so many phases of the disease, there is lack of agreement among competent observers concerning the microscopic pathology. It is likely that in most cases the cell unit is of the plasma cell type, perhaps even that it is really a plasma cell. Geschichter and Copeland believe that in the typical case of multiple myeloma this kind of cell will be found. The plasma cells found in multiple myeloma are round, oval or egg shaped, from 9—11  $\mu$  in diameter with the nucleus 4—5  $\mu$  in diameter, and eccentrically placed. The chromatin is found mainly at the periphery of the nucleus and gives the spoke-like appearance. The cytoplasm is opaque and non-granular. Plasma cells are generally considered as being derived from the adventitial

cells of blood vessels. If this is true, then myelomata of the plasma cell type cannot be considered as having origin in the blood forming cells but are fundamentally endothelial. Often, however, the type of cell found indicates origin from the blood forming cells of the bone marrow. Most authorities recognize four cell types found in this disease—plasma cells, lymphocytes, myelocytes, and erythroblasts. Perhaps all these develop from a common ancestor.

*X-Rays in Multiple Myeloma.* X-rays are often the means of arriving at the correct diagnosis. If the disease is seen early they are the only reliable means. The tumors destroy bone and appear as rounded punched out areas of decreased density. There is no sclerosis about the edges and no fuzziness of the outline. In late stages the tumors may be so numerous that the bones involved appear coarsely mottled. It is probable that no other disease presents the same picture as multiple myeloma under the x-ray. The tumors do not form bone. The fine mottling sometimes seen in syphilitic bone disease or some diseases attributed to the parathyroid glands is not found. Fractures are very common but marked bending from cortical softening does not occur.

*Course and Treatment:* Multiple myeloma runs a variable course. Death comes in a few months or may be a matter of four years or more. The average is about two years. The patient has wandering rheumatic pains most often in the back. He becomes progressively worse and is bed ridden. During the period of remission he is comparatively free of pain. Following this, symptoms are aggravated, pain is intense, fractures occur and death comes from an intercurrent infection or from toxic absorption. Treatment is entirely unsatisfactory. Supporting measures may prolong life. X-ray therapy is said to retard the progress of the disease but does not affect it otherwise.

First Nat'l Bank Bldg.

#### BIBLIOGRAPHY

- Geschichter and Copeland: Tumors of Bone.
- Anatole Kolodny: Bone Sarcoma.
- Evarts A. Graham: Surgical Diagnosis.
- James Ewing: Neoplastic Diseases (3rd edition).
- Dean Lewis: Practice of Surgery.
- Edward Kaufman: Pathology (trans. by S. P. Reimann).
- F. B. Mallory: Principles of Pathological Histology.

## TRAUMATIC CATARACT; ITS MEDICO-LEGAL ASPECT

JOSEPH SHANKS, M. D.

CHICAGO

Traumatic lesions of the eye occur in numerous ways. According to an authority, 70.7 per cent. are occupational and 30.3 per cent. non-occupational injuries. In the daily routine of practice the physician very frequently encounters such cases; and, since many such injuries are of a serious nature by reason of giving rise to visual disturbance or even complete blindness and thereby very often become a principle factor in bringing about law-suits for damages, he is frequently brought to testify concerning the findings of the first examination, the possible cause from the viewpoint of the surgeon and the prognosis of such accidental injuries. Among the difficulties encountered in formulating a correct opinion about conditions involving serious lesions that have antedated the accidental injury are problems often not so easy to solve. In fact, some of the congenital anomalies may even be unknown to the patient; so that, from time to time, the physician may be called upon to state whether a partial or complete blindness is due solely to a recent injury or whether it is the result of some remote pathological process. On the other hand, experience as well as published observations reveal that complete blindness may occur as a result of injuries of very remote origin (for instance, traumatic cataract).

Typical traumatic cataract generally results from the direct trauma of some cutting, sharp or blunt instrument, or by the presence of a sharp and penetrating foreign body, which, after entering the anterior chamber of the eye, injures the capsule of the lens and the lenticular substance as well. Such injuries may bring about a displacement of the lens from its normal position, constituting traumatic luxations of the lens. Partial displacements of the lens result from trauma whose effect is so localized as to break only a part of the zonule of Zinn. Complete dislocation of the lens follows an injury which causes a complete break in the so-called zonule of Zinn (suspensory ligament), thus forcing the lens to leave its position altogether. The capsular substance of the lens is usually not broken. The displacement may occur in the following directions: 1. Forward directly into the anterior

chamber. 2. Posterior or backward luxation into the vitreous chamber. 3. Through a perforation in the tunics of the eyeball into the capsule of Tenon or under the conjunctiva. In a general way, however, this type of cataract usually occurs without a complete dislocation of the lens, and, according to experiments by several German ophthalmologists and others, as well as clinical observations show that a great percentage of traumatic cataracts occur via so-called simple shock of the crystalline lens produced by violent blows and contusions.

Moreover, there are instances in which both eyes became cataractous after a blow and bruise above the supraorbital region. In fact, the author had operated on such a case at St. Elizabeth's Hospital on January 20, 1934, with the following history:

In February, 1932, Mr. J. P., aged 37 years, was mistaken for a certain individual in front of his home, attacked and beaten by several men on the head and above the left supraorbital region. There was no apparent alarming reaction, except an insignificant subconjunctival ecchymosis or probably hematoma which was situated near the inner canthus. Gradually a sensation of slight heaviness in the eyeball and diminution in vision was experienced by the patient and which became worse from day to day. The eye was treated by the employment of antiseptic lotions and compresses. About 22 months later the patient consulted the author for the treatment or relief of his complete blindness. Ophthalmoscopic examination revealed bilateral cataract with only an uncertain perception of light in the left eye and better perception in the right. Aside from the opacities (cataracts) the conjunctiva and lids failed to present any evidence of trauma. However, a small whitish leucoma occupied the superior internal portion of the cornea.

From a medico-legal point of view it is very important to bear in mind that by some it is stated that blindness due to an opacity of the lens may not manifest itself until many months or even years after an accidental injury; so that cataracts which often resemble those of the constitutional variety may, in reality, be due to some foreign body, blow, contusion, or may be secondary to more serious lesions of the eyeball. Dr. George W. Mahoney of Chicago cited the case of a man both of whose eyes became cataractous in consequence of an electrical shock to his forehead. Then it is well to think of the wounding agents prominent in the causation of such



conditions. According to a French writer, Baudry, the following wounding agents are the most prominent: "Metallic points or chips, points of scissors, lead shot, needles, knives and pens. This is followed by contusions of the eyeball, caused by blows from fists, rubber balls and corks." The same author adds: "Severe shocks to the skull or to the skeleton may indirectly produce lacerations of the anterior or the posterior lenticular capsule with frequent rupture of the suspensory ligament of the lens."

Furthermore, we have cataracts caused by violence without perforation of the coats of the eye and without concomitant pathology of the deeper structures of the organ. Such cases are rarely infected and often recover without any troublesome symptoms and with good visual results. But many of these seemingly non-infectious cases may be also complicated by many serious conditions, among which are glaucoma, luxations of the lens, and injuries to other parts of the eye previously undetected—the consequences of which in themselves are very far reaching and peculiar. When, for instance, the wound in the capsule is so large that a considerable portion of the lens is subjected to the influence of the aqueous humor and thereby becomes swollen; and, in case the augmentation of the intraocular contents is so great that the tension is increased, especially in patients of advanced age due to the non-elasticity of the ocular membranes, what is there to prevent a serious condition of glaucoma?

Traumatic cataract may be also complicated by foreign bodies in the anterior chamber and the iris, besides the lens. Small fragments of glass, steel, iron, bronze or copper may enter the anterior chamber or become imbedded in the iris after having cut through the cornea. At times these particles become encapsulated in the superficial tissue of the iris or they become caught in the angle of the anterior chamber, and are borne for a number of years without any symptoms or evidence of inflammatory reaction. Metallic fragments, especially if minute, are oxidized and dissolved. On the other hand, far more frequently, they give rise to a form of inflammatory process known as plastic, or a subacute form involving not only the iris and cornea, but the ciliary body as well, producing a dangerous form of atrophy of the eyeball. In a general way, the prognosis in such cases is quite hopeless; this

being true in spite of the modern advance in electro-magnetic technique and operative resourcefulness. Conclusions: The diagnosis and prognosis of a traumatic cataract differ markedly in accordance with the findings of the examiner and the aseptic or septic condition of the object causing the trauma; likewise, the age and general health of the patient and the condition of the other parts of the eye. The most precarious cases are those which result from badly contused injuries of the anterior corneal segment of the eyeball, the cataract in such cases generally amounting only to a secondary or contributing form of pathological process. The facts given by an intelligent patient will often aid in a correct diagnosis as well as prognosis—they will often aid and permit the institution of the most important and scientific forms of treatment. Too often, however, such statements furnished by the patient are quite unintentionally erroneous and misleading, because they are frequently the results of confusion or hysteria. It is always better to make as minute an examination as possible and to depend upon such a direct examination. The problem of differential diagnosis is far from an easy matter. The presence of a foreign body in the lens is usually determined by ophthalmological examination or x-ray. The presence of corneal trauma with an opacity of the lens following an eye injury is, of course, legal evidence. Quite frequently the discovery of a foreign body is in itself a very difficult problem due to peripheral swelling of the lens or capsule and by the existence of posterior synechia which interfere with the dilatation of the pupil, thus not permitting a complete examination of the lens and ocular media. Besides, a previously concealed opacity in the lens substance may thoroughly overshadow the foreign body. It may also happen, according to an observer, that the foreign body does not reveal itself until after an absorption of a part of the cataract.

Finally, we come to the question of malingering and true conditions. It is a known fact that patients simulate in order to obtain an indemnity; that disorders of the eye have always held a high place in such claims. On the other hand, it would be absurd if not criminal to consider every patient a malingerer (!) It is necessary, therefore, that the surgical expert witness should know the methods of making an almost certain

test for the detection of malingering. However, it is often very difficult if not impossible to detect ocular conditions solely due to trauma, especially among skillful pretenders who have had long experience or whose visual acuity in one eye is much different from that of the other. For instance, a certain type of patient may disclaim the ability to distinguish daylight from darkness when at the same time the pupillary reactions or irides function normally; also, when local manifestations of systemic disease are attributed to local shock and accidental injury. It can be easily seen how simple a matter it would then be for certain types of individuals who are subjects of diabetes, rheumatism, syphilis, etc., to exaggerate and associate any mild form of eye injury with the effects produced on such particular eye, especially when such organ becomes suddenly inflamed after a minor injury—what a claim! Moreover, there is a universal belief by pathologists that contusions and irritations predispose all tissues and organs to inflammation. A French writer and others have demonstrated the incontestable influence of traumatism in promoting constitutional conditions of a serious nature. For instance, a rheumatic subject may have alarming symptoms after a slight contusion to the eyeball (the injury being the exciting cause—of importance from a medico-legal standpoint). On the other hand, the author hates to think what a defendant or insurance company could do to a plaintiff with the aid of a conniving expert witness. This does not mean an accusation or offense to an individual, company or firm—it means serious facts. The plaintiff or patient is told to produce indisputable evidence of trauma to the eyeball or orbital margin, while local and general affliction—such as are usually brought about by diseases of the blood and diseases of the respiratory and circulatory systems, for example: anemia, gout, diabetes, rheumatism, menopause, albuminuria, dysmenorrhea; also local conditions like high myopia, glaucoma, choroiditis—must all be ruled out.

The question of determining whether a cataract is of traumatic origin, especially when due to a blow over the supraorbital region, is often very perplexing. When, however, systemic forms of cataracts are present, such as are noted in senility or diabetes, or those that are merely co-existent with conditions like glaucoma, tumors,

etc., so that the patient can very seldom deceive the physician, the evidence is, of course, apparent; but systemic forms of cataracts seldom belong in the domain of legal medicine.

25 East Washington Street.

#### BIBLIOGRAPHY

- Fuchs: Ophthalmology, Vol. 6.  
 Baudry: Injuries to the Eye in Their Medico-Legal Aspect.  
 Bane: International Journal of Med. & Surg., Nov., 1929.  
 British Journal of Ophthalmology, Feb., 1929.  
 May: Diseases of the Eye.  
 Recent Advances in Ophthalmology.  
 Posey and Wright: Diseases of the Eye, Nose, Throat and Ear.

#### IRRITABLE COLON

H. P. MILLER, M. D.

ROCK ISLAND, ILL.

There is a group of patients with abdominal symptoms due to an irritable colon that must be carefully differentiated from organic disease. Recognition is not difficult if a careful inquiry is made into the mental and physical symptoms with proper laboratory tests. The symptoms and physical findings may be so characteristic of gall bladder disease, peptic ulcer or appendiceal involvement that unless carefully excluded an operation may be performed for one of these without correcting the real trouble and with no permanent relief of symptoms. I wish to emphasize in the following paragraphs the salient points to have in mind in the examination and present illustrative cases.

The history is one of maladjustment to environment, the individual pictures of which are multitudinous. Business worries, financial worries, marital difficulties, family responsibilities, worry over acts of children, disagreement with relatives may be mentioned. Complaints are made of insomnia, vertex or suboccipital headaches, and exhaustion. The circulatory system may be involved with palpitation, cold perspiring hands and feet; the genito-urinary with frequency; the gastro-intestinal with hyperacidity, distension and distress after meals, nausea, filling up quickly with small amounts of food, rapid eating and, finally, often chronic constipation with constant use of irritant cathartics. Excessive use of caffeine beverages is common. This frequent history easily impresses the neurotic basis of the complaints on mind of the examiner.

In the type of case considered here, in addition to the above complaints, along with the



constipation and regular or irregular use of cathartics, pain in the abdomen often brings the patient to the physician. These patients are apprehensive in type and hypersensitive to pain. Operations are common things. Their neighbors or relatives may have submitted to a surgical procedure sometime or other for definite organic disease. It is common knowledge that the appendix is in the lower right side, that the gall bladder is in the upper right side and that a pain in the upper stomach, especially if accompanied by hyperacidity, might mean an ulcer. Hence, fear of one of these organic conditions brings the patient to the doctor. We should remember there is one commonly involved organ that may cause pain in any one or all of these points. The colon follows a course which takes it from the appendix up near the gall bladder, very close to the duodenum and stomach and down on the left near the bladder. It lies directly over the kidneys and pain may be lumbar on one or both sides suggesting kidney involvement.

This localized pain, however, should not deceive one. It is not backed up by the usual accompanying symptoms found in organic disease. It is apt to be irregular, to be relieved somewhat by defecation or passage of flatus. It may be relieved or disappear when on a vacation or after relief from worry or after a rest of a few days. During mental stress and worry or after a round of irritant cathartics it is apt to be increased. It is apt to change in location from time to time from the cecal region to the right upper quadrant or the left lower quadrant.

On physical examination there may be tenderness more or less acutely felt, but no rigidity at the site of the pain, no temperature, no leukocytosis. At times in thin individuals, the distended cecum or contracted, spastic, tender, descending colon can be felt through the abdominal wall.

The laboratory examination should be gone through systematically. A slight secondary anemia may be shown. Careful urinalysis is important, because of frequently associated pain in the back particularly in women, to exclude pus which may come from an old chronic pyelitis dating from childhood. A Wassermann is done routinely. Gastric analysis may reveal a high or low acid. Stool examination on six occasions

after a meat diet for three days is important in cases with tenderness and pain suggestive of ulcer. There is no blood with irritable colon. With a normal cap and negative stools and the historical background indicated, a high percentage of so-called ulcer syndromes will be relieved on treatment directed to the colon. A Lyon's gall bladder drainage is done if symptoms are referred to the gall bladder region.

Finally, the x-ray examination is extremely important. If symptoms are referred to the gall bladder the Graham test is done first. We do not place too much emphasis on slight delay in filling or concentration, although, if found, the routine oral administration is checked with intravenous administration. Slight findings do not endanger the patient's life for the time being and if the predominant evidence indicates colonic trouble a therapeutic test is made, often with relief of symptoms and normal filling of the gall bladder in a second series.

The x-ray of the intestinal tract comes in for primary consideration. In brief, the stomach empties rapidly, often half empty in fifteen or twenty minutes and completely empty in two hours. In my experience few of these cases show pylorospasm with delay in emptying. The cap is often difficult to fill, the material being squirted through too rapidly. The meal transverses the small intestine very hurriedly reaching the cecum in three or four hours instead of five to seven and from there on advancing rapidly to the splenic flexure. At this point the progress is impeded. A twenty-four plate often shows most of the meal still in the dilated cecum and extending out in thinning stream to the mid transverse or splenic flexure with very little in the descending colon or rectum. A forty-eight hour plate often still shows two-thirds of the meal in the right colon with dilatation of the cecum, perhaps a narrow string in the descending colon and small amount in the rectum. Much this same distribution may be found in seventy-two hours but less amount of the barium and some may still remain in eighty-four hours. There is then, a combination of hypotonia in the cecum with hypertonicity in the descending colon and upper sigmoid colon.

During the progress of the meal through the colon, of course, fluoroscopy is done at twenty-four and forty-eight hours. Tenderness may be

noted over the cecum and ascending colon or descending colon. The appendix if presented is palpated for tenderness, if filled, in order to rule out organic trouble.

After the completion of the above observations a barium enema is administered. By this, organic factors such as ulcerative colitis, diverticulosis, or obturative lesions and stricture are ruled out. The colon usually fills rapidly to the splenic flexure then more slowly. When the colon is filled with forty ounces of barium mixture a typical picture is seen. The cecum and ascending colon are dilated one-third to one-half larger than the rest of the colon. The transverse may appear about normal in size. The descending colon and upper sigmoid are decidedly deficient in diameter. Case<sup>1</sup> gives a set of figures showing diameters of various parts in normal and spastic colons following a forty ounce barium enema which have proved helpful to us.

TABLE 1

	Normal Colon	Spastic Colon
Cecum .....	6.0 cm	6.0-10.0 cm
Ascending colon .....	5.0 cm	5.0- 7.0 cm
Transverse colon .....	5.0 cm	4.0- 6.0 cm
Descending colon .....	4.5 cm	3.0- 4.0 cm
Iliac colon .....	4.0 cm	2.0- 3.5 cm
Pelvic colon .....	3.5 cm	2.0 3.0 cm

In addition, redundancy of the transverse or ascending colon is often noted which disappears or improves on treatment.

All of these procedures may seem time consuming and expensive. They are, but an operation for non-existent ulcer, gall-bladder disease or appendicitis is more dangerous, more expensive, more time consuming and does not relieve.

Case 1. Mrs. W. E. T., aged 33 years, office worker. Entrance complaint, pain in the epigastrium and right intercostal region, dull and gnawing in character, radiates through to the back at times and worse at night. Aggravated by heavy eating. Appetite good until lately. Bloating occurs after meals, catharsis does not relieve and bowels constipated unless she takes cascara. Denies tenderness. Sleeps very poorly and is very nervous, irritable and jumpy. No loss of weight. Has had some rectal trouble with fissures and piles which have been treated by the injection method by a proctologist. Has had sick headaches all her life. Physical examination: Well nourished individual weighing one hundred seventeen pounds, blood pressure 120/70, heart and lungs normal. Abdomen is negative except for tenderness in right upper quadrant of abdomen two or three fingers below costal margin. Laboratory: Gall bladder series normal. Fluoroscopy of the stomach; stomach filled normally. Pain is more to the right over the kidney or ascending colon area as indicated in fluoroscopy. Fluoroscopy of the colon; twenty-four

hours after ingestion showed barium meal was all in the right half. Appendix elongated, dilated at tip, well filled. Proximal one-half rectocele and tender. Fluoroscopy after forty-eight hours showed the colon well filled throughout the ascending and transverse, descending and sigmoid empty. Placed on the usual management with relief.



Fig. 1. 48 hour film. Retention in right half. Transverse and descending spastic.

Eleven months later again reported with distress in the right upper quadrant. Bowels moved well every day. Food has no influence. Denies tenderness. Doesn't sleep well. Complains of nervous headaches and tired feeling. Physical examination: Tender over the ascending colon and at hepatic flexure. Twenty-four hour film shows definite right half retention and cecal dilatation. Another x-ray series showed retention in the colon after sixty-five hours. Barium enema fills very rapidly, cecum dilated, descending colon spastic and tender. Responded again to the usual treatment.

Case 2. Mrs. H. W. B., aged 36 years, housewife, three children. Complains of pain in the suprapubic region also in the right and left sides at slightly higher



Fig. 2. 48 hour film. Retention in transverse colon.



level and in the small of the back. The pain seemed to go through to the back. Insomnia. Bowels move well if she takes agar and oil. Appetite poor, food distress and fullness after meals, fills up rapidly, has a lot of gas; soda gives slight relief. Thinks she has lost a little weight. Menses are scanty though usually regular. Is very nervous but keeps it to herself. Gets flushed up easily and is not cheerful. Induces vomiting if she eats a hearty meal in order to obtain relief from distress or takes soda. Denies heartburn. Appendix was removed in 1919 and stomach raised. Physical examination: Poorly nourished nervous individual, excessive sweating in the axilla. Weight loss ten pounds. The abdomen is flaccid and tender in the gall bladder region. Pelvic organs in good position and normal. Blood 4,060,000, hemoglobin 80%, urine negative. Gastric analysis and stools negative. Gall bladder series normal. Stomach fluoroscopy; slight tenderness over cap. Does not fill well. Six-hour film showed head of meal at hepatic flexure. Twenty-four hour film normal distribution in the colon. Forty-eight hour shows retention in the right half, descending spastic. Seventy-two hour still marked retention. Placed on mineral oil and phenobarbital, one-fourth grain, four times a day, smooth diet and adequate rest with relief.

Case 3. Mrs. S. M., aged 31 years, saleswoman, two children. For three weeks has had backache radiating around to the right side and right lower abdomen also down right thigh. Ruptured appendix operation three years ago. Pain in upper abdomen two years radiating through to back. Several months ago very severe. Gastric analysis by another physician was reported as showing too much acid. Bowels constipated. Bitter taste in mouth. No soda relief. Eating relieves pain in stomach for one-half hour or so. Appetite is poor, sleep very poor, very nervous. Frequent headaches temporal and suboccipital. Heart beats fast and chokes up to the throat. Gets weak when talks. Physical examination: Shows well nourished, nervous individual, no definite tenderness elicited in abdomen. Laboratory: Gall bladder series normal. Gastric series: Duodenal cap cannot be filled well, very tender. Fluoroscopy of the colon: Right colon and transverse, well filled; descending spastic. Stools negative for blood. Placed on an ulcer diet without alkalies and mineral oil with a diagnosis of possible peptic ulcer and spastic colitis. Obtained considerable relief from her stomach symptoms in three weeks on a low residue diet with mineral oil. Stools persistently negative for blood on six examinations on a second series of tests. Walking forty blocks a day caused some backache but otherwise no trouble. After feeling well for several weeks started helping in her husband's business and after several days again became nervous due to business worries with recurrence of pain in the right side and nervous headaches. The pain was in the right upper quadrant of the abdomen with distress in the epigastrium after eating or drinking. The backache returned coming on from four to five in the afternoon and radiating down the outer side of the right side. Discontinuance of work and strict diet were resumed with belladonna and phenobarbital added. Relief again occurred in a short time.

Case 4. Mrs. P. W., aged 65 years, widow, housewife. Complaints of soreness in the epigastrium, pyrosis, heartburn and nausea about three to four in the morning and afternoon for three or four months. Milk relieves the distress slightly. Has been living on milk and eggnog. Denies tarry stools. Bowels constipated. Takes frequent cathartics. Physical examination: Slight tenderness over the epigastrium. Laboratory:



Fig. 3. 48 hour film. Isolated boluses and retention.

Gastric contents, free acid of 70; combined 14. Stools negative for blood. X-ray examination showed a spastic colitis with isolated boluses in transverse and ascending colon in twenty-four and forty-eight hours. Usual treatment. One month later much better, bowels regular. After another month with no distress slight roughage added to diet.

Case 5. Mr. G. R., aged 65 years, American, widower, commercial fisherman. Entrance complaint: Has had stomach trouble for two years with the loss of forty pounds in weight. Heartburn occurs after eating beans and tomatoes. Meat, bread and potatoes agree well. Complaints of a heavy feeling immediately after eating and some pyrosis and pain in the left lower quadrant of abdomen for six months. Also, tender on pressure in the epigastric region. Since this trouble came on he has been very constipated. Appetite is poor. Denies any vomiting. Has had a bronchial cough since a boy, worse for the last five or six years and accompanied by wheezing. Brings up a large amount of sputum estimated as a pint in twenty-four hours. Blood streaked at times. Physical examination: Weight one hundred twenty-four pounds, blood pressure 160/90. Chest markedly emphysematous. Heart normal to auscultation. Abdominal examination negative for masses. Moderate tenderness in the epigastrium. Laboratory: Blood normal, Kahn test negative, urine normal. Numerous sputum tests were negative for tubercle bacilli. X-ray examination of the chest showed emphysema. Fluoroscopic examination of stomach revealed nothing abnormal. Cap filled well. Film showed normal emptying in six hours. A small portion of the meal had reached the cecum. With a barium enema the bowel filled very rapidly to the splenic flexure and slowly from

then on. The transverse colon showed marked haustrations. Ascending colon and cecum were moderately dilated. No obstruction or filling defects.

This patient was placed on a low residue diet and mineral oil while a series of stools were run for blood, but found negative. There was marked relief within ten days with regular bowel movements and good appetite followed by steady gain in weight.



Fig. 4. Barium Enema. Spasticity descending colon. Moderate redundancy. Dilatation of cecum with incompetency of ileocecal valve.

Case 6. Mrs. W. M. W., aged 66 years, housewife. Has had chronic constipation for many years and has taken enemas daily during this time. Complains of distress in the left upper abdomen and following the course of the colon. The pain in the left upper quadrant was close to the heart and caused her to worry over heart trouble for many years. There is belching after meals but no hyperacidity. A barium enema revealed spasticity of the descending colon. Placed on the usual management. Pain in left upper quadrant disappeared and bowels moved well without enemas.

Treatment first of all involves removal or alleviation of mental factors. Adequate rest, sometimes even hospitalization temporarily to remove disturbing factors is necessary. Individualization on this point is important. Discontinuation of tobacco and caffeine beverages is necessary. The diet should be non-irritating, low residue in type till regular bowel movements are secured, then roughage gradually added. This may take anywhere from six weeks to three or four months. Spices and other irritating foods are avoided. For the constipation mineral oil, or plain mineral oil and agar in divided doses one hour after meals is used. At first the oil is supplemented with an instillation rectally of three ounces of olive oil at bedtime. For the pain copious hot packs over the entire abdomen one-half hour three or four times daily gives relief.

In addition enough atropine to not quite cause dryness of the throat combined with sodium bromide is given three times a day for the first two or three weeks till symptoms are relieved.

#### SUMMARY

1. The irritable colon is a functional condition which must be carefully distinguished from organic abdominal disease.
2. A detailed history, a careful physical and laboratory examination is justified and necessary to avoid unnecessary operations.
3. Important physical and laboratory signs have been mentioned in detail and a treatment which has been successful in our hands has been described.

#### BIBLIOGRAPHY

1. Case, James T.: Roentgen Observations Respecting the Causes and Treatment of Constipation. The Bulletin of the Battle Creek Sanitarium and Hospital Clinic, Vol. xix, December, 1923.

### A NEW TYPE OF RETENTION CATHETER\*

J. MAJOR GREENE, B. S., M. D.

EARLE I. GREENE, M. D., F. A. C. S.

CHICAGO

In most surgical procedures requiring the use of a retaining catheter, we, as well as others, have encountered considerable difficulty in keeping the

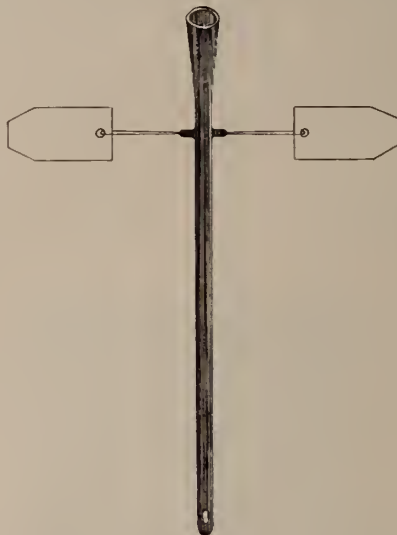


Fig. 1. Retention Catheter showing attached collar and method of anchorage.

catheter in place. The catheters have a tendency to slip out of the wound. Adhesive has been used, the adhesive encircling the catheter and then applied to the skin. This makes a very un-

\*From the Department of Surgery  
Northwestern University Medical School



tidy case, especially if there is any secretion about the tube. Silk has also been used by tying one end to a piece of adhesive which is attached to the skin and the other end to the catheter. This method does not always work well, the catheter tending to slip out of the wound.

Following an ileostomy in an inoperable carcinoma of the stomach, we found that the catheter, which was inserted into the ileum, started to slip out of the wound. One of us took a piece of rubber inner tubing from an inner tube of a tire, cut a four-inch square, and after making a very small hole in the center, had it sterilized. Upon stretching this piece of rubber, we were able to pass the catheter through the small opening of this rubber pad. Upon releasing the tension on the rubber pad, the catheter was held tightly to this pad. The pad was placed over sterile gauze and fastened down with strips of adhesive. The friction between the catheter and the rubber pad kept the tube in place. This method worked well for a few days. Then the secretion from the wound seeped between the catheter and the pad, causing the catheter to again slip out of place.

We then constructed a catheter which would not slip out of any cavity into which it was placed, and yet serve the same purposes any catheter would. An oval piece of rubber was cemented, approximately three and one-half inches from the outlet of the catheter. Two holes were made in this pad of rubber. By means of adhesive strips attached to the skin, and two pieces of silk, the tube could be anchored into any cavity and kept there indefinitely, certain that it would not slip out.

The following diagram illustrates the catheter and method of anchoring it in place. The catheter can also be anchored in place by running a silkworm suture through the skin and holes in the collar of the catheter.

The collar of the catheter can be made at various levels, depending upon the depth of the cavity into which the catheter is inserted, as, for example, into the bladder, ileum, stomach, etc.

#### SUMMARY

1. A new type of retention catheter carrying a collar which can be used wherever an indwelling catheter is needed.

2. A catheter that can be anchored and will not slip out of place.

3. A catheter that can be kept clean, thus avoiding the use of adhesive about the catheter, to anchor it in place.

4. This collar can be made at various levels of the catheter, and, therefore, can be used wherever a retaining catheter is indicated.

---

#### PROGRESSIVE MEDICINE\*

R. W. BINNEY, M. D.

GRANITE CITY, ILL.

An old legend tells us that many years ago when Rome was mistress of the world, all of her captive people were granted one day in the year on which they might say exactly what they wished about everything, of course including Rome, without fear of consequences. The story ends there but I have an idea it must go on to the effect that each year when the day for speaking rolled around that there was very little talking done. For it is the way of the world that the magic of the necessary word is lacking when the need for it is greatest.

So, gentlemen, Doctors, my fellow colleagues, this day has arrived for me. You must therefore comprehend my appreciation even though it is unspoken. You must accept it as if it had been uttered, my gratitude that your gracious mandate has placed me in this honorable position, doubly honorable because of the men that have preceded me in it.

If you will have a little patience and bear with me for a while I am going to talk to you on the subject of progressive medicine. Several years ago while visiting in Chicago I heard a most brilliant address, the subject was "The Medical Revolution." It was presented to the American College of Surgeons by Glenn Frank, then president of the University of Wisconsin. The remarks made in this address are very applicable to the subject I am about to discuss. Pardon me if I quote some of the excerpts from this address:

"The historian of medicine will look back upon the period following 1875 as the time of the Medical Revolution, as the historian of industry looks back upon the period following 1779 as the time of the Industrial Revolution. In both instances new forces came into the field destined to alter profoundly the prevailing policies and procedure.

"If I may generalize very broadly, this Medical Revolution was brought about by the entry of the science

---

\*Address before Madison County Medical Society, June, 1933.

of medicine into a field before occupied in the main by the art of medicine. Medicine is admittedly both an art and a science. And the Medical Revolution will not bear its full fruit unless, as the ultimate result of its readjustments, the best in the art of medicine and the best in the science of medicine meet and merge, both in the practice of the physician and the program of the professions.

"But revolutions are treacherous adventures unless they are engineered by men who possess both the hindsight of the historian and the foresight of the statesman. In revolutions we always run the risk of throwing to the winds the external as well as the obsolete elements of the old order. And I am not sure at all but that in the necessary promotion of the science of medicine we are today in danger of losing some of the previous values developed in the practice of the art of medicine over the generations.

"The 'old doc' of the sickroom as well as the 'super-doc' of the laboratory must be reckoned with in any sound development of medicine. Old doc—I use the term in affectionate admiration—will always keep a tight hold on the heart strings of humanity. I wonder whether you know Opie Read's whimsical picture of the old doc as he knew him in the South of an earlier day? Let me share with you the pleasure I had in reading it.

"His house was old, with cedar trees about it, a big yard, and in the corner a small office. In this professional hut there was only one window, the glass of which was dim with dust blown from the road. In the gentle breeze the lilacs and the roses swapped their perfume, while the guinea hen arose from her cool nest, dug beneath the dahlias, to chase a katydid along the fence, and then with raucous cry to shatter the silence. The furnishings of the office were less than modest. In one corner a swayed bed threatened to fall, in another a wash stand stood epileptic on three legs. Nailed against the wall was a protruding cabinet, giving off sickroom memories. To go into his office and to come forth with no sign of heaving was a confession of the loss of smell. Sheep-shearing fills the nostrils with woolly dullness, but sheep shearers could scent old doc as he drove along the road.

"In every country the family doctor is a natural sprout from the soil. His profession is almost as old as the daybreak of time. He bled the ancient Egyptian, blistered the knight of the Middle Ages, and poisoned the arrow of the Iroquois. He has been preserved in fiction, pickled in drama, spiced in romance and peppered in satire; but nowhere was he so pronounced a character as in the old South. He knew politics, but was not a politician. He looked upon man as a machinist viewing an engine, but he was not an atheist. He cautioned health, and flattered sickness. He listened with more patience to an old woman's harping on her trouble than to a man in his prime relating his experience. His books were few, and the only medical journal found in his office was a sample copy. When his gathered lore failed him, he was wise in silence.

"At no place along the numerous roads traversed by old doc was there a signpost with a finger pointing

toward the attainment of an ultimate ambition. No senate house, no woosack of greatness, waited for him. The chill of foul weather was his most natural atmosphere; and should the dark night turn from rain to sleet, it was then that he heard a knock and a "Hello" at his door. Down through the miry bottom land and up the flint hillside flashed the light of his gig-lamp, striking responsive shine from the eye of the fascinated wolf. The farther he had to travel the less likely he was to collect his bill. Usury might sell the widow's cow, for no one expected business to have a daintiness of touch; but if old doc sued for his fee he was met by the court with a sour look."

Blessed be the memory of old doc! He may have been poor in scientific knowledge, but he was rich in human insight. He may have been awkward in handling test-tubes, but he was adept in handling patients. He knew, without learning it from lecture-room or laboratory, the subtle psycho-analysis. His sick rooms were secular confessionals in which he practiced a rare priesthood. His deficiencies were many, but, according to his lights, he was an apostle of the art of medicine. Modern medicine must perfect his technique and widen his knowledge but it must not lose his spirit. Old doc, brought down to date, gives us a doctor who knows how to link the learning of the laboratory to the life of the patient, making that learning bring cure to men in the shadow of sickness and caution men in radiant health.

For a long time old doc held the field. The art of medicine was dominant. And then the winds of a new critical and scientific spirit began to blow across the world. That spirit crossed all frontiers and on unseen wings flew through the closed doors of dogmatism and self-satisfaction everywhere until the whole of modern life was touched by it, medicine along with other fields. Today the science of the study of disease is surely transforming the world of medicine. I shall not undertake to analyze or assess the innumerable studies, the varied sciences, the extensive researches, and the new techniques that are today playing a part in the evolution of modern medicine.

The passing of the "old-time" practitioner has been made a subject for much lamentation, and from a purely sentimental angle, deservedly, for embodying as he often did, the attributes of friend, priest and physician. He held a very personal relation to his patient and his virtues have



been loudly extolled—and so we pass on to a greater field of medicine.

From the experience we have had in the past two or three years a progressive program surely would be welcomed and in order. When we meet difficulty it is a signal for relief.

I want to call your attention to the difficulties which confronted President Roosevelt upon his inauguration and through the press you are familiar with his action and the remedies he is applying by the elimination of many old customs and the inauguration of a new system that is operative and effective.

This not only applies to governmental affairs but also to ourselves and we can no longer expect to adhere to the old methods and customs of practice. New conditions are arising daily and they must be met and in order to meet them we must have an open mind viewing all circumstances, administering to the best of our judgment, and conduct ourselves in such a manner that we would prevent criticism publicly and legislatively and have no political chaperons.

I shall now endeavor to give you what I believe to be a helpful program in keeping with the customs of our former presidents. What I may offer may not prove to be the best, however, this entire program must be subject to criticism and correction. If such were not the case, it would be a departure from customs and liberty of free thinking.

Our first thought must be the problems that confront us and they should have our most careful consideration. The recent relief program was brought to us unexpectedly and was met with only a degree of satisfaction from the fact of it coming to light suddenly, therefore, we were not prepared to inaugurate a perfect operative plan. However, I believe, should this continue for some time there is no question in my mind but that an economical and effective program will be formulated which will do justice to the dependents and all others concerned. My belief is that the elective county officers, that is, the supervisors who normally were supervisors of the poor, should have charge of this program, which would eliminate the expensive set-ups by the State.

In reference to contract practice, I believe, in many instances it is necessary that a specific arrangement be made with the physician to care

for patients. This especially applies to industries. It is very essential, as a matter of record and concentration of facts and service concerning their employees, that it be placed under the supervision of one man. Furthermore, the thought of expense must enter into this which applies to every concern and ourselves. We must not lose sight of the fact that we individually have tried to economize in order to reduce our overhead expense. We must not expect of others what we do not accept ourselves.

In further consideration of contracts with societies, lodges, etc., if we will look deeply into this matter we will find the cause for it. You will recognize the fact that there are many people that have a wage that is insufficient to take care of their daily needs and provide adequate medical service. More than likely circumstances of this kind are responsible for the employment of lodge physicians. With these facts before you, as an intelligent body, it is up to us to formulate a plan to offer adequate service to this group of people or make no further complaints for practice of this nature.

Employment of a physician for the care of the inmates of the county hospital and jail. I can see no reason why a fairly accurate estimate cannot be made as to the value of this service.

Competitive bidding should be discouraged as it is likely to jeopardize the service. There should be no secrecy as to the value of this work and interested physicians should make application and submit bids in accordance with the estimation made; then the selection of a physician would be left to the discretion of the Board of Supervisors as to their choice.

The medical profession should be ready and willing to co-operate with this board, as a clear understanding is necessary to perfect a better working agreement.

I am sure if the matter was handled in this way the entire program would be more satisfactory and the dependants would have a guarantee of a better service.

At the present time, during the relief regime, I see no occasion for the employment of township physicians other than those who are engaged for the care of the inmates of the county institutions.

Hospitals have not been given proper consid-

eration from relief organizations, city and township boards. Their offer to the institutions is inadequate and unjust. The charitable feature of the hospital must not be abused, there should be a supreme and co-operative effort to provide for them what is adequate and just in order to preserve the standards that are necessary for their successful operation. Unless satisfactory arrangements are made patients from this source will be refused admittance.

The thought of State Medicine frequently creeps into the picture with some little annoying factors. I really can see no fear of such legislation as long as the medical profession is willing to give the proper consideration to its patrons. We must not be selfish and see and view only our side of it. Every individual is entitled to consideration and circumstances are responsible for many changes in action and practice. A high standard of medical education, a clear understanding as to its meaning and service and an educational program through the press or by direct contact, is, in my judgment, a preventive for State Medicine.

In reference to community customs: At various times in our Society unpleasant remarks have been made in reference to the practice of physicians at various places. I want you to know that there exist community customs that are not harmful and should be left alone. Members of this society should not be critical and the matter should be left entirely to the discretion of the physicians in their respective communities.

To fight the steady encroachment of lay usurpers, the medical profession requires an organization. The local, the county and the state medical societies, all branches of the great A.M.A., are the one weapon that the ethical physician finds ready to his hand, dependable, tried and true and wise in the ways of council and defense.

You need help, doctor, from organized medicine, and organized medicine needs help from you. Organized medicine, as vested in your county and your state society, provides the staunchest of economic and professional protection. Many reforms are being carried on which in previous years were impossible. Abuse of medical charities, illegitimate and unethical methods of practice and all of the other evils

which have embarrassed the physician and reduced his income can only be successfully handled by a well organized and compact profession, able to take a positive stand on these matters and to carry out its decisions. The welfare of your profession depends upon the support you give it. A well organized profession means greater respect and better compensation.

The economic angle of medicine, needless to say, is one tangent that ethical medical men are only too prone to underestimate and overlook, yet economics plus ethics effect efficiency. The most unselfish of the scientific professions is made of men who never pay any attention to economics until they have themselves landed high and dry.

If we are to progress as a profession the educational program must be our first thought. The competent and fair-minded physician is always in demand. Those of you who recognize the importance of education will bear out the foregoing statement. It is unnecessary to mention the numerous centers of education but I shall impress on your mind that your own Society offers a postgraduate course in a small way. If you will reflect, this organization gives us twelve lectures each year and they all have been instructive. This should be a reminder to keep up your membership and be a regular attendant.

It has been an honor and pleasure to represent you as your president and I sincerely hope that what I have left with you today will be of some value. Should anything further develop as the means of this program I will feel that I have been well paid for the effort and thankful that, what I have offered may be a help to mankind.

---

#### THE YOUNG PHYSICIAN\*

W. A. NEWMAN DORLAND, M. D., F. A. C. S.  
CHICAGO

The great apostle Paul, when speaking of the human body, reminded us that we have comely members and members that are not so comely, but that these members are all joined together into a single unit, the body; so that the eye cannot say to the foot, "I have no need of you," nor the foot to the hand, "I have no need of

---

\*An address delivered by invitation before the graduating class of the Illinois College of Chiropractic and Foot Surgery, June 3, 1933.



you;" but inseparably united they are interdependent and interhelpful.

For this reason, I have never quite been able to understand why the foot surgeon and the dental surgeon have been extruded, or have voluntarily extruded themselves, from the general body of surgeons. They are both important specialties in the practice of medicine. There are no more important members of the body than the teeth; the process of digestion is largely dependent upon them. And the man whose feet are out of order is like the golden statue of Nebuchadnezzar with feet of clay—a very unstable institution.

I shall, therefore, in this brief address, speak to you as if you were corporate members of the great medical profession, and not of a distinct unattached surgical specialty.

It is probable that never has a more splendid tribute to the medical profession been paid than that which emanated from the pen of the genial literary invalid, Robert Louis Stevenson, while luxuriating amid the tropical delights of his adorable Samoan home. Wrote Stevenson:

"There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; more rarely still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible only to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick-room, and often enough, though not so often as he wishes, brings healing."

So wrote the man who knew much of physicians throughout his life of physical frailty, and knowing them well was eminently fitted to pronounce judgment upon them as a class.

Literature is not lacking in many similar testimonials to the worth of, and tender regard for, the physician. Yes, as a rule, the standing of the doctor among his fellowmen is exceptionally

good. Have you ever wondered why this is so, that the doctor of a community—and especially is this true of the smaller country towns where the individual is not so inevitably swallowed up in an overwhelming mass of humanity—is so universally loved and respected? Wend your way from town to town in any part of our country, or through most European countries, and you will not fail to find the doctor reckoned among the leading citizens of the place. He is found on all prominent committees; he presides over many of the town meetings; he is often President of the school board; he heads the relief committees in times of stress—everywhere his name comes first and foremost.

This is not merely because he is the doctor of the place. The clergyman is there also; the leading merchants and townsmen; the aldermen and town clerk; the retired men of means—these are all there, and they are equally prominent in their various phases of activity. Yet, not even the clergyman holds the honored place in the affections of the people to the same degree as does the family doctor. Loved as one of the family; the chosen confidant to whom the hidden secrets are revealed, and who never fails this sacred trust; the one first sought at the hour of birth and when the angel of death hovers near—he comes closer to the heart and soul of each one of us than does any other member of the community. His untiring efforts for the relief of his patients, the kindly smile and cheerful word which banish much of the pain and suffering, the sturdy manhood which inspires confidence and trust—these and many other lovable traits of character explain the marvellous hold he has upon the affections of his fellowmen.

Perhaps it is because of this cherished and honored position in the community that writers, for the most part, have seen best to depict the doctors of their books and stories as lovable characters. This has not invariably been so, however. Note, for instance, the ridiculous "Dr. Sawbones" of Dickens fame. On the other hand, what an interesting assemblage the gracious, helpful doctors of literature would make were they gathered together! So intimately is the physician concerned with the everyday humdrum life of people in general that almost every author of note has been compelled, perforce, to include him in his work. So we meet the resourceful "Dr. Wat-

son," the inseparable companion of Sherlock Holmes; the interesting physicians painted by Checkhov, himself a physician; Weir Mitchell's "Dr. North" and his friends; the helpful physician of Irving Bacheller's "Eben Holden"; the kindly doctor of "Rab and His Friend"; the genial old "Dr. McClure" so sympathetically portrayed by Ian Maclaren in "Beside the Bonnie Briar Bush"; the fascinating "K" of Mrs. Mary Roberts Rhinehart's stories; and, more recently, F. Brett Young's "Young Physician" and Sinclair Lewis' type of the ordinary physician of any small town as he has painted him in "Main Street" and "Arrowsmith." And there are many others, quaint, lovable, Christ-like, heroic, tremendously helpful and inspiring, who have graced the pages of literature and, incidentally, honored the medical profession.

It is not my province at this time, however, to eulogize our profession, which we love and in which we move and have our being. Let the sum of the efforts of medical men for human welfare speak for itself. Moreover, far be it from me to mislead you who are standing at the threshold, just about to enter into the glorious profession of medicine. Stevenson was an optimist, despite the suffering he was called upon to endure throughout his all too brief span of life. He saw the doctor through rosy glasses of love and admiration. The doctor had helped and comforted him, and in gratitude he loved him. Unfortunately, not every doctor is the paragon of virtue that Stevenson would lead you to believe. I would that he were. There are many who measure up to his standard, it is true. I have referred to these noble men of medicine, these princes of humanity. But just as true is it that the common frailties of mankind are to be found among medical men as among men of other professions and callings. Petty jealousies and envyings are here also; a lack of the perception of the higher things that make life worth the living; wrong judgments as to what spells success; wrong goals set up to be striven for. My motive in calling your attention to this fact is an endeavor to steer your feet away from these unlovely and undesirable things, the many pitfalls that beset the unwary and faltering steps which have wandered into devious and crooked paths, and to direct you into other and better paths, which are often not so lucrative and in-

viting, but which lead to better things and happier endings.

King Solomon, who chose wisdom rather than riches and found thereby both wisdom and riches, out of the midst of all his glory wrote, "There is no wisdom in the grave whither thou goest." Therefore, wisdom must be sought for where it is to be found—and that is right here and now. Let me give to you, who are about to become one with us, some words of wisdom—not of my own devising, but culled from the accumulated experience of the ages. Perchance these words may prove of some help to you as you begin your professional career. They may even be instrumental in bringing the ultimate success which you are hoping for.

In the first place, you must love your profession. Where a man's treasure is there will his heart be also. Your profession is your greatest treasure; therefore, give you heart to it. Without love and interest in the work no task can reach its fullest fruition. Love for one's work implies concentration of the best that is in one to the accomplishment of the task. Work then becomes a living pleasure, not a deadening toil. Then the sun is shining, the birds are singing, the pulse is throbbing, and the hardest road seems easy. Under such circumstances only is a real success possible. Then difficulties are but stimuli; doubts are but problems to be solved, and obstacles become merely the hurdles in the great torch-race toward the ultimate goal that you are striving for. How can one succeed if his work, his daily task, is irksome and burdensome? So, start out on the path you are entering with a genuine love for your work, and a generous measure of success is certain to be yours.

Next, you must honor your profession. That means you must make it your ideal, your first aim in life. All your efforts must be concentrated on mastering it. To honor your profession means you must not do anything to dishonor it. It is a noble profession. Many have called it the noblest of all professions. It is different from all other professions in that it embodies the humanitarian idea. Largely because of their magnificent ideals in life physicians have been accused unjustly of lacking in the business sense. Of course, this is not true of the profession as a class. Individually we differ in this respect, but as a class physicians are no less business-



like than is any other class or profession. The high ideals of the medical profession, the high standards of living that doctors have set for themselves, have done much to foster this erroneous impression.

Unfortunately, the sense of honor is not universally prevalent—that is, honor in its highest definition. The ethical, honorable doctor will not commercialize his profession in the gross sense that the average merchant or business man will do. This is as it should be. This puts the stamp of dishonor on charlatanism in every aspect of that nefarious business; on practising medicine for what there is in it rather than with the aim in view of doing good to mankind irrespective of the financial return. It does not discredit or prohibit the adoption of good business principles within ethical bounds. The practice of medicine is a business as well as a profession, and the doctor and his family must live just as do other men in other avocations. Naturally, a successful professional career implies a personal knowledge of one's limitations. Not every doctor is a good eye-surgeon, or a good specialist in any other selected line. Learn what you can do best and do that. It will pay in the end. People will soon learn where you fit in best, and in that way your reputation and work will develop along your chosen line of proficiency. Above all, remember that you cannot improve upon the oath of Hippocrates which every physician accepts and pledges when he receives his diploma on graduation, and which is the pledge of honor for the medical man.

Again, do not dishonor your profession by dragging it in the mire of politics. Much better is it to be a good doctor than a dubious politician and a poor doctor as well. You cannot dissipate your energies and expect to reap the best harvest. As I have said, concentration upon your chosen vocation, which has cost you so much in the acquiring both of time and money, will land you higher in the scale of accomplishment than will dabbling your hands and mental efforts in scattered lines of activity.

In the next place, you must work in your profession. There is no place in the world for a laggard, an idler, a wastrel. Everywhere there are obstacles that must be overcome. You must keep up with others who are intent upon their tasks and who mean to succeed. The man ahead

must be passed—not in envious competition, but in pleasant and friendly rivalry, in an endeavor to bring out the best that is in him and in you. Latent powers, undeveloped talents, must be delved for and brought to their utmost perfection. Foolish habits of indolence and carelessness must be conquered. The power of concentration must be cultivated, the value of thoroughness appreciated.

Congressman Lindbergh, whose famous son recently won the love and admiration of the world no less by his nobility of character than by his epoch making deed, took as his motto in life the suggestive axiom, "Tireless striving stretches its arms toward perfection." That is it—"tireless striving!" There is no let up; there can be no let up. If you would win success in life you must work day and night, in season and out of season, when other men are sleeping or playing; with no fear of the failure which is bound to come at first. As one has said: "The first essential of success is not to be discouraged by failure, or by ten failures, or by a hundred failures." "David Harum," the best seller of its year, was rejected by twenty-two publishers before its final acceptance. Had its author stopped after two or three rejections the book would probably never have appeared to win a fortune for its author and a name in literature. These failures are the stepping-stones to the ultimate success, which is all the more distinctive and perfect because of the vital lessons which the repeated failures taught. The start in one's life work is the hardest. Providence has so ordained. One's mettle must be tested, one's nerve hardened, one's will developed, before the faculties are awakened that are essential to success. Chicago's "I will" spirit is the spirit that each one of you must acquire before the supreme goal can be attained.

Therefore, do not lag behind; but ever watchful, ever alert, keep up to date with the scientific progress of your specialty by dogged, determined digging. That is a big thing to do. Events are moving rapidly in these epoch-making, astounding years. The last fifty years have contributed more to the progress of the world in every line of endeavor than did all the previous centuries of recorded history. You are living in and a part of the greatest age the world has ever seen. Let it not be written of you that you failed to

grasp the tremendous opportunities that have been spread so temptingly before you.

About seventy-five years ago, that famous physician and philosopher, Oliver Wendell Holmes, in his "Rip Van Winkle, M. D." wrote:

"Talk of your science! After all is said  
There's nothing like a bare and shining head;  
Age lends the graces that are sure to please;  
Folks want their doctors mouldy, like their  
cheese."

That may have been true in Dr. Holmes' day, but times have changed radically since then. It is not true now. "Folks" are keeping up with the times, and the mouldy baldpate is not in it with the hustling, bustling scientific young practitioner who reads his journals, visits his clinics, attends the scientific meetings, and knows what is going on in the world in this iconoclastic age. Old things are passing away, all things are becoming new. The accepted theory of yesterday is the discarded folly of today. Veneration for the old, long-established ideas has been supplanted by cold-blooded incredulous investigation. And there is room for you all in this new era of wonderful progress. The scientific world is extending its welcoming hands to the scientific seeker after truth, to the man who is thinking new thoughts and putting them into useful, practical application. So begin to work at once, thoughtfully, practically, in your profession.

And, finally, you must contribute something to your profession. Who wishes to be regarded as deadwood, as useless lumber, as a hindering element, in the great calling or profession with which he has become affiliated! Just a word of advice in this connection may be of value. Do not try to do something big, something startling, spectacular. Such things are few and far between. Do well the little things your hands find to do, and do not attempt to estimate their weight, their worth, in the final reckoning. "Despise not thou these little things." It has ever been the little things that have overcome things that were great and powerful. History is filled with these Davids who overcame the strong and arrogant, the Goliaths of evil repute, the mountains of wrong, injustice and ignorance. Your little contribution may, in the end, be found to be great indeed in the superstructure which you

are erecting in co-operation with others. Do not be disappointed if you fail to win the applause of the world and of your fellow practitioners. This is a cold, selfish world, and its judgment is not always sound. Remember that it may be wrong, not you. The plaudits of men are frequently given to those who in the long run are found to be the colossal failures. The judgment of men is often at fault; but rest assured that when the final reckoning is made, no such errors of judgment are possible. So contribute your mite, knowing that after all there is no great deed but which is in reality the summing up of many small and apparently trivial things. Give all that is in you and leave the results to the judgment of time which is a great leveler and an infallible discoverer of the proper relations of things.

185 North Wabash Avenue.

#### AN OVERLOOKED FACTOR IN SUSCEPTIBILITY TO THE COMMON COLD

ARTHUR E. EWENS, B. S., M. D.

ATLANTIC CITY, N. J.

There is probably no more formidable enemy to human health and comfort than the common cold, the widespread incidence of which continues to defy both etiologic explanation and prophylactic control. This ubiquitous malady not only inflicts upon this country a direct economic loss of four hundred and fifty million dollars annually,\* but paves the way to a host of refractory catarrhal difficulties that impose a further sacrifice of occupational efficiency and an ever increasing need for the largest group of specialists in the entire field of medical practice.

Recent efforts to curb the ravages of this universal plague have been focused upon the possible identification of a specific causative agency, the assumption being that prospective laboratory findings offer about the only hope of success. There has been no definite proof, however, that a distinct bacterial cause exists, and even if one were ultimately isolated it is questionable whether the perplexities of the problem would be materially lessened. It is rather difficult to visualize serological protection against a disease which itself tends to augment, rather than diminish, subsequent susceptibility. More readily con-

\*Based upon statistics of the U. S. Public Health Service.



ceivable are the altruistic possibilities that might accrue from the detection of an eliminable anatomic factor in man's vulnerability to catarrhal infections. Theoretically, a structural abnormality could induce lowered resistance to organisms normally present in the nose and throat and, if common to a great many individuals, might more logically explain the prevalence of "colds" than the supposed aggressiveness and specificity of an undiscovered bacterium or virus. Such an hypothesis is quite consistent with the negative results of bacteriological investigation, and is by no means a vain conjecture. It is actually true that clinical research has overlooked one correctable somatic impairment whose predisposing influence is empirically and convincingly demonstrable, and whose delayed recognition seems measurably responsible for the erstwhile futility of the fight against the common cold.

This overlooked factor is none other than that apparently innocuous structure, the uvula, so often carelessly designated as "the palate" by both the laity and the profession. This devitalized and physiologically superfluous appendage has never received any critical consideration beyond that accorded it by Hippocrates, who recognized its frequent elongation as a mechanical cause of paroxysmal coughs and advocated staphylotomy as a corrective measure. Unfortunately, Hippocrates' suggestion has never attained great popularity. Had its practical utility in dealing with innumerable cases of convulsive coughing and incessant clearing of the throat been properly appreciated, a vastly more important potentiality of this procedure would inevitably have come to light long before the twentieth century. The main impediment to this revelation has been, and still is, a superstitious and erroneous conception of the functional importance of the uvula, in consequence of which staphylotomy has been inadequately performed even when "cautiously" resorted to.

A customary degree of hesitancy and conservatism dominated the writer's early employment of staphylotomy, but it soon became apparent that a bolder procedure involved none of the dreaded risks and was much more efficacious and dependable. Gradually this was found to be true up to the point of removing the uvula in its entirety, an operation which has since been performed many hundreds of times, and with results as

unprecedented as the operation itself. Routine use of "*staphylectomy*" for the relief of habitual clearing of the throat and an amenable type of paroxysmal cough eventually revealed the rather amazing fact that it also exercised a remedial influence upon catarrhal conditions of the entire upper respiratory tract. Primarily, this was not an objective disclosure, nor was it even a suspected possibility. It was purely accidental.

The original observations must be accredited to patients themselves, who repeatedly called attention to various unanticipated benefits conferred by staphylectomy, notably a relative freedom from "colds," but whose alleged experiences were at first regarded as sheer products of the imagination. Except for the repetition and enthusiasm of these incredible contentions they might not have aroused the slightest interest, for there seemed to be, at that time, no logical reason to suppose that the mere removal of a small piece of redundant tissue from the faucial arch could produce the remote and phenomenal effects which these patients were wont to ascribe to it. About twenty years have now elapsed since a skeptical investigation of this apparent myth was thus inaugurated, and the unique experience to which it led has afforded incontestable proof of the provocative role of the uvula in uncontrollable recurrences of the common cold and in the intractability of other catarrhal difficulties involving both the nose and throat.

By painstaking follow-up methods and the helpful co-operation of interested patients it has been determined that staphylectomy checks susceptibility to "colds" in excess of fifty per cent. In occasional instances a complete absence of recurrences has been reported for periods of several years, and rarely have indifferent results been observed. Exact percentages of efficiency can not be tabulated, the controls in this investigation having necessarily been in each case the past experiences of the subject himself. Patients are seldom able to state accurately the number of attacks per year they have previously encountered, but they can make postoperative comparisons that are sufficiently definite for practical purposes, and the contrast is usually so sharp that a precise ratio becomes relatively unimportant. What applies to the comparative frequency of "colds" before and after staphylectomy is equally true concerning the abated intensity and

duration of infections that may develop after the uvula has been removed. A peculiar phase of the latter observation is the mildness or entire absence of sinusitis in cases where this had invariably been a troublesome accompaniment or sequel of rhinitis prior to operation.

The effectiveness of complete removal of the uvula has been substantiated not merely through subjective information, but by significant and unmistakable changes in both pharyngeal and nasal structures. The most conspicuous of these visible effects are so prompt and decided in some instances as to literally defy belief. Chronic postnasal engorgement is reduced to a degree that definitely facilitates nasal breathing, and the characteristic signs and symptoms of pharyngeal and nasopharyngeal catarrh are rendered permanently less pronounced. These clearly discernible effects are more than suggestive of a contributory culpability of the uvula in marked catarrhal tendencies; in fact, they have been so constantly observed as to admit of no other interpretation.

The part played by the uvula in predisposition to the common cold and kindred affections may not appear so strange and inexplicable if we take into consideration the extremely poor vascularity of this structure and its other correspondingly sparse histologic components, which would unavoidably render it less resistant than the substantial and well vascularized portions of the pharynx. Furthermore, its anatomical location is especially favorable to the accumulation of ceaseless installments of bacteria, dangling directly in the pathway of both respiration and deglutition. It is thereby subjected also to more or less mechanical abuse, particularly in the act of snoring. These combined characteristics make the uvula an ideal bacterial nidus upon which microorganisms gain a flourishing foothold, subsequently invading in overpowering numbers the posterior nares and other contiguous areas that might otherwise be capable of maintaining a relatively healthy status. (In striking conformity with these practical considerations is the well-known fact that the earliest symptom of an incipient coryza is not referable to the nose, but is almost invariably a sensation of dryness and pruritic discomfort in the vicinity of the soft palate, nasal involvement being a somewhat delayed development.)

This line of reasoning may appear fundamentally defective in that it wholly ignores the supposed functional requisites of the uvula. But does the uvula really serve any distinct or valuable purpose in the human being, or is it a superfluous and rudimentary structure? In lower animals it is essential to a reflex expulsive mechanism of vital importance. During the act of panting it thus affords protection against the hazardous ingress of flying insects and other foreign material, but aside from its participation in this highly necessary defense of the larynx and pulmonary tract it serves no other purpose for which the major portion of the normal velum palatinum does not alone suffice. The life and habits of primitive man undoubtedly demanded similar protection, but it has been a long, long time since man ran through the wilds, panting. Since civilization abolished this need of the mouth as an accessory avenue of breathing the uvula has had virtually no function to perform, and protracted disuse has relegated it to the category of obsolete and decadent structures. As in the case of the appendix vermiformis, cessation of function has impaired its blood supply, decreased its size and substance, lowered its vitality in general and transformed it into a mere rudiment and an insidious pathogenetic factor. Its pathological influence upon adjacent structures might be likened to that of an extraneous growth similarly situated, as there is a direct parallel in the observed effects of excision. Corroborative evidence of this supposed evolutionary and diminutive change in the physical characteristics of the uvula is afforded by a comparison of this almost cylindrical remnant, as it now exists in the human being, with the substantial, broad, triangular curtain suspended in the throat of the lower animal. Scores of dried specimens in the writer's possession bear convincing testimony to this advanced degenerative transition.

Within the past year an interesting counterpart of this hypothesis appeared in the editorial columns of a metropolitan newspaper under the heading: "Colds and Evolution." Although written in the abstract, and with no implied reference to the uvula, this article presented a truly prophetic assumption that justifies its quotation, in part, as follows:

"There has been taking place almost insensibly in bio-



logical science, these last decades, a change or emphasis not well appreciated even by the biologists. The theory of evolution no longer is regarded as something to be proved. This has been done. Instead, the essentials of the theory now may be accepted as guiding principles in explaining other facts still unclear or in exploring other circumstances still unknown. If the anatomist finds, for example, some bodily organ or structure apparently useless to its modern possessor, it is legitimate for him to assume that this organ once was necessary and that some change in the habits or circumstances of the species has lessened its utility. The familiar example is the human appendix. *The same principle should apply to this mystery of colds.* It is impossible to accuse Nature of deliberately aiding the invasion of men's throats or noses by harmful germs." The author of this article probably did not actually foresee an early substantiation of his theoretical surmise, but it is nevertheless true that the uvula is the evolutionary agency involved and that its general recognition as such will render this "mystery of colds" far less enigmatical.

There is no preoperative means of gauging the pathogenic culpability of the uvula in cases of marked susceptibility to the common cold. Neither its size nor any other observable characteristic affords a dependable index to the advisability of excision, for it has been found that an exceptionally small uvula may be a source of pronounced disturbance and that it is not the elongated type only that definitely contributes to lowered nose and throat resistance. Staphylectomy may therefore be considered a justifiable and advantageous procedure in practically all cases exhibiting aggravated catarrhal tendencies, its efficacy being determined by the thoroughness of the operation and not by the dimensions nor the consistency of the tissue removed.

Denunciation of this radical proposal may be dictated by popular prejudice, but a practical and reliable estimate of its alleged rationality and merits is readily available to every member of the profession. The means is extremely simple and clinical material everywhere abundant.

Staphylectomy is such a minor procedure that it hardly admits of a technical description. It exacts no unusual skill of the operator nor does it demand special facilities. The topical employment of cocaine, or larocaine (Roche), in sufficiently generous amounts renders the operation practically painless. The use of both hands being essential, it becomes necessary for the patient to manipulate the tongue-depressor, which

he or she can be instructed to do even more expeditiously than a trained assistant. Active hemostatic measures have never been required, although the possibility of their need has at times been anticipated. Only a trivial amount of bleeding is ordinarily witnessed and spontaneous arrest usually takes place in from one to five minutes. In many instances there is practically no hemorrhage at all. Postoperative care is a negligible consideration, but patients have, when practicable, been kept under daily observation until the wound was fully healed. The importance of removing the uvula in toto cannot be too strongly emphasized as no compromise between staphylotomy and *Staphylectomy* will yield results clearly confirmatory of the original findings reported.

Superstitious aversion to complete removal of the uvula has for ages obscured the possibility of an epochal rhinolaryngological achievement, for only through the experimental employment of staphylectomy would it be possible to glean the facts that are indispensable to success in the long attempted conquest of "colds" and related nose and throat disturbances. This obstructive prejudice, although universal, is entirely unwarrantable. Over two thousand staphylectomies have revealed not the slightest justification for it. In the hands of the writer the procedure in question long ago passed from the stage of experimentation to that of established clinical utility, the enormous scope of which will prove no less astounding to future investigators than it has in the course of this anomalous experience.

3600 Pacific Avenue.

## PRIMARY ACTINOMYCOSIS OF THE PAROTID GLAND\*

JOHN T. HART, M. D.

AND

CLEVELAND WHITE, M. D.

CHICAGO

Primary actinomycosis of the parotid gland is sufficiently rare, according to the literature, to prompt the reporting of a case that recently came under our observation.

Blair and Olch<sup>1</sup> state that the literature contains only 15 cases where the disease began as

\*From the Departments of Surgery and Dermatology, Northwestern University Medical School.

a primary infection in the salivary glands and furthermore because of its insidious onset and its ability to simulate early other clinical syndromes, this case is reported to emphasize the increasing importance of considering the possibility of the actinomycosis in unilateral salivary gland enlargements.

### CASE REPORT

A white man, 21 years of age, single, and a store clerk was first seen December 10, 1932, by one of us (J. T. H.) complaining of a non-painful swelling on the right side of his face, of two months duration and of insidious onset. His past history was irrelevant except that he had resided in the City of Chicago since the age of three; he has had no dental work performed in the recent past; he had not been in the country for many years, and had not been around any live stock.

The examination showed a well-built, anemic-looking male with a swelling about the size of a baseball involving the right parotid gland. The swelling was limited strictly to the parotid gland and the patient was barely able to open his mouth. The other salivary glands were of normal size and there was no adjacent satellite lymphadenitis, the overlying skin was not reddened, the tumor was not movable, and it was firm and indurated, almost woody. Slight tenderness existed just inferior to the zygoma. Many teeth were carious, the second upper right molar was a mere shell. The opening of Stensen's duct was puckered, no attempt was made to probe the duct. The mucous membrane of the mouth was normal, the rest of the body (lungs, etc.) was completely negative.

The temperature was 101° F., pulse 112, white blood cells 17,200, the differential count showed 84% polymorphonuclear cells, 14% lymphocytes, and 2% monocytes. The hemoglobin was 65% and the red count was barely four million. The urinalysis and blood serology were normal. Bone pathology and calculus were ruled out by an x-ray film.

A few days later, under local anesthesia, a section was taken for histological examination. There was no material to utilize for cultures. The section showed only a fibrous tissue reaction and was reported as chronic inflammation. Five days later he was hospitalized because of the persistence of his constitutional symptoms. Under general anesthesia the entire swelling was explored with a gloved finger. The parotid gland was necrotic in its entirety and readily broke down before the examining finger, but no pus was present. It was clinically considered a non-suppurative parotitis. Following this procedure the patient improved somewhat and was discharged from the hospital in one week.

Four weeks later he returned to the office and there had now appeared two rather large fluctuant areas along the anterior border of the right sternocleidomastoid muscle. The infection in the parotid gland region had entirely subsided and the wounds were healed. The swellings were incised without anesthesia and the thick purulent material slowly flowed into a sterile test tube. It was sent immediately to the Department of Health

of the State of Illinois, where Miss Virginia Ryan examined it and reported the findings of the typical sulphur granules and the diagnosis of actinomycosis was confirmed. This was the first appearance of any pus, approximately three and one-half months after the swelling was first noticed by the patient.

*Dermatological consultation* was sought regarding the clinical diagnosis and the treatment was immediately instituted consisting of x-ray therapy and heavy doses of iodides per mouth. The suppurative areas were kept adequately drained and there was steady improvement. When last seen in June, 1933, the man had entirely recovered.

*Surgical Discussion.* Primary actinomycosis of the parotid gland is an uncommon occurrence. Inasmuch as this is a disease usually affecting the jaw and the adjacent structures in the human being, it is to be expected that the salivary glands are at times involved. Primary actinomycosis of the salivary glands, that is, where the disease is limited to the glands, has rarely been reported. In all other instances the process is secondary and by extension from involvement of some adjacent structure.

Actinomycosis may simulate almost any other affection which is known to occur in the parotid gland. In some instances it advances so rapidly as to imitate an acute phlegmon or even osteomyelitis of the underlying bone. It may be mistaken for a malignant tumor, but is most likely to be confused with tuberculosis. It is distinguished, however, from this disease by the fact that tuberculosis causes, from the beginning, an adenitis and only secondarily invades the skin by breaking down of the lymph nodes, while actinomycosis imitates an inflammatory reaction which clearly has no relation to the lymph glands.

The recognized avenues of infection of actinomycosis of the parotid gland are by continuity of the lesions, canicular and by metastases, the latter almost always occurring by way of the blood stream. In the case reported it would seem that the route of infection was via the canicular since the opening of Stensen's duct was directly opposite the carious tooth which likely harbored the ray fungus. Lord<sup>2</sup> has called attention to the fact that pure cultures of actinomyces are occasionally found in the normal mouth of patients without actinomycosis. He obtained two positive cultures from seventy patients.

In reviewing the management of the case, it



would appear that had the correct diagnosis been made before operation, complete removal of the gland should have been the treatment of choice.

*Dermatological Discussion.* Andrews<sup>3</sup> emphasizes that actinomycosis of the skin is usually secondary to disease of the underlying bone or periosteum, although rarely the skin may be infected from external sources as infected animals, cereals, hay, and straw. The most common site of involvement is the cervical-facial region to which the fungus may spread from carious teeth, disease of the inferior maxilla, or infected gums. The earliest lesions are firm purplish nodules which gradually soften; the sinuses exude a purulent discharge, which contains tiny whitish or yellowish granules that are masses of fungi. Clinically, actinomycosis must chiefly be differentiated from scrophuloderma which usually has less infiltration and more hypertrophic scarring. Positive diagnosis is secured by the finding of the fungus in the discharge. In the rare case of primary actinomycosis of the skin it usually remains limited in area and is best treated by surgical excision.

#### SUMMARY

1. A case of actinomycosis is reported where the first clinical manifestations were in a parotid gland

2. Bearing in mind the fact that actinomyces are found in the human mouth, therefore, the disease actinomycosis should be considered in cases of unilateral salivary gland enlargement.

#### BIBLIOGRAPHY

1. Primary Actinomycosis of the Salivary Glands, Blair and Olch, Dean D. Lewis Practice of Surgery, Volume 5, chapter 5, page 16.

2. Etiology, Pathogenesis, and Diagnosis of Actinomycosis, Frederick T. Lord, M. D. Medical Clinics of North America, January, 1933, pages 829 and 844.

3. Actinomycosis, G. C. Andrews, Diseases of the Skin, 588, 1930, W. B. Saunders Co., Philadelphia.

1150 N. State Street.

104 S. Michigan Avenue.

#### REPORT OF CASES OF INDUCED INSANITY

C. H. ANDERSON, M. D.

MOLINE, ILL.

The following cases of insanity may properly be classified as cases of folie à deux, and will be considered as such in the following report.

The subjects of this report were three sisters who had lived alone for many years. One sister was postmistress and the three were dependent

on her salary for support. The second sister rarely left the house except to make the necessary purchases and to attend divine worship. The third sister was considered subnormal mentally and seldom left the home for any purpose.

Space forbids a recital of the history of the second and third sisters because it would largely constitute a repetition of the history of the first.

For the purpose of disguising the identity of the subjects of this report, the writer will designate them as Misses A, B, and C.

The history, as given by a brother, states that Miss A was born and reared on a farm near the town of X, forty-six years previous to commitment to a state hospital; completed a course in the grade school and continued to live with her parents on the farm until their death; was considered queer and socially inadequate; church activities offered only outlet for social life.

She was the only one of the three sisters who attempted to secure employment outside the home; successfully passed a civil service examination for postmistress and received an appointment to that position in the town of X.

After the death of their parents they moved from the farm to the small town of X, where they continued to live together until the commitment of Misses A and B to the hospital.

Present mental trouble began about eighteen months prior to commitment. Attention was first directed to patient's mental condition when she went to the home of her brother and stated that she had overheard a conversation in the post-office between two men in which one informed the other that a plot had been laid by a group of men to enter the home of the three sisters at night for the purpose of chloroforming and raping them. Miss A also related this incident upon her return home and the story was accepted by Misses B and C.

The following night the sisters locked doors and barred the windows for protection. They alternately watched throughout the night for intruders. They heard voices of men prowling about the premises and when morning came they found the grass and shrubbery had been trampled down.

The same occurrences were repeated the following night except that when the morning came Miss A told her sisters that she believed she had been chloroformed and raped by a number of men because of peculiar sensations about the genitalia. The other two sisters claimed the same experiences and sensations and that they, too, had been chloroformed and raped during the night.

To prevent a repetition of these unhappy experiences they installed a burglar alarm system, but on the following morning they found that some marauder had thrown the system out of service. A newer and more expensive system was then installed but the same happenings occurred that night. Night after night the same unhappy events took place and finally Miss A expressed the belief that she was pregnant because her menses had become irregular and a feeling of bloating and distension of the abdomen existed. The sisters accepted these recitals as true and claimed the same condition.

Miss A then appealed to the authorities for protection but received no relief. She then wrote a letter to the sheriff asking redress. The sheriff visited the home but found nothing demanding correction.

Miss A then decided to purchase a gun for use in self-defense. While passing a garage she displayed the gun to a crowd of men and expressed a determination to use it for protection. This occurrence led to the arrest and commitment of both Miss A and B. Miss C shared the beliefs of the other two sisters, but because she was less emphatic in her statements, was permitted to remain at home.

Physical examination at the time of admission was practically negative.

Gynecological examination was negative and showed a hymen intact. Gave a history of menses beginning at fifteen years of age and becoming irregular at about the time of the onset of mental symptoms.

On admission Miss A verified all statements made above, stating she had lived a moral life, had committed no sins and had no cause for self accusation or condemnation. She also stated that she desired the company of the opposite sex, but was too timid and self-conscious to indulge this desire.

Miss B and Miss C were twins, 48 years of age, and, like Miss A were too timid, seclusive and modest to seek the association of the opposite sex; neither took part in the usual social activities of the community and sought no employment outside the home.

Being sisters, all three had the same ancestral history, a similar endowment and the same environment. The three sisters also had an unsatisfied wish for the pleasures and privileges accompanying the marital state.

The process of sublimation transformed this wish into a devotion to the church and its activities. This compensation proved in a measure satisfactory until the menopause began. The endocrine disturbances accompanying the beginning of the involutional changes caused a break in the psychological mechanism that had permitted the sisters to live a fairly normal life and made a new adjustment necessary.

Inhibitions were then relaxed and the unfulfilled wish received satisfaction in dreams. The censor permitted events to occur in dreams, that would not have been allowed in a conscious state.

The sisters would not voluntarily submit to extra-marital gratification, therefore they brought their seducers to the home under cover of darkness, caused them to circumvent safeguards and ravish the sisters while under the influence of chloroform.

### ORGANIC ESOPHAGEAL STENOSIS\*

M. A. GLATT, M. D., F. A. C. S.

CHICAGO

Three cases of esophageal stenosis are selected from a group which were under my care at the Illinois Eye and Ear Infirmary as the basis of

this article. It is my purpose to discuss with each case presentation certain phases pertaining to the etiology, diagnosis and treatment of organic esophageal stenosis. It is also my aim to emphasize the importance of endoscopy as a diagnostic aid in any patient presenting symptoms of discomfort and pressure feeling in the chest, especially upon swallowing, and in whom the usual methods of examination do not disclose the etiology.

#### Case No. 1. *Carcinoma of the Esophagus with a Dilatation.*

Mrs. M. F., 55 years of age, was admitted to the Infirmary with a complaint of difficulty in swallowing solid food for the past six months and liquids during the past month; extreme weakness and loss of weight. Her past and family history was of no importance except that she has been consuming more than a pint of moonshine daily for the past few years. She has been treated for gastritis by several physicians who presumably relied on the history of alcoholism for their diagnosis.

A mere superficial examination of this extremely emaciated patient was sufficient to impress one that we were dealing with a case of malignancy. During her two days' stay at the Infirmary she suffered from rectal and vesical incontinence. X-ray examination with a barium meal showed an obstruction about the fourth thoracic vertebra and a dilatation above it. Esophagoscopy revealed a cancerous obstruction 28 cm. from the incisor teeth and a saccular dilatation above which contained about four ounces of liquid food. Biopsy proved the growth to be an epithelioma. As the patient was in a moribund state it was not possible to undertake important therapeutic measures. She expired three days after her removal to her home.

While much progress has been achieved in the early diagnosis of cancer of the larynx and many lives saved by timely operation, yet the finding of cancer of the esophagus is tantamount to a death sentence. However, it is regrettable that many of these patients drift from one physician to another with various diagnoses, without a thorough investigation being made. If diagnoses were made earlier, before they progressed to a stage where pain and starvation as a result of the obstruction become manifest, then their life period could at least be extended by the various palliative measures. Granting that there are difficulties in diagnosing these cases early, still it is often due to the failure of utilizing all the diagnostic means at our disposal for a thorough study.

From a report compiled by E. A. Graham and H. C. Ballou<sup>1</sup> of fifty cases of cancer of the esophagus at the Barnes Hospital, St. Louis, one can

\*Read before and cases presented at the monthly staff meetings of the Illinois Eye and Ear Infirmary during the 1932-1933 sessions.



observe that men make up 84 per cent. of their cases. Other clinics report a still higher percentage of cancer of the esophagus in men than in women. It is a fact that men usually minimize their complaints, ascribing them to late hours, excessive smoking, dietary indiscretion, alcoholic debauch. They are less "cancer conscious" than women, and thus consult the physician only when the process has advanced too far. There are others who, regardless of a very short history of the duration of the complaint, present extensive involvement upon examination. Under such circumstances it can be realized how difficult it is to get these patients in an early stage and to attain successful cures in cancer of the esophagus. Another partial handicap in the diagnosis and treatment of cancer of the esophagus is that its recognition and care lie within the domain of various specialists—internist, roentgenologist, bronchoscopist and surgeon—and unless there is great co-operation these patients wander on until it is too late.

Patients with involvement of the cervical portion of the esophagus often complain of discomfort and pressure feeling in the neck and of an irritative cough. This phenomenon can be explained by the distribution of the most sensory nerve fibers along the posterior part of the larynx and trachea, and by the incomplete formation of the tracheal rings in this area which offers little resistance to the aggression of the malignancy. The formation of a tracheo-esophageal fistula which causes an aggravation of the above-mentioned symptoms, is already a later condition.

While a great number of cases of cancer of the esophagus can be diagnosed in the early stages by the x-ray, still at times the roentgenologist has difficulties,<sup>2</sup> especially in the diagnosis of the cervical portion, and our responsibility does not end there.

Instead of a cursory examination, which does not reveal anything pathologic in the throat or larynx and an advice to have the tonsils removed if they are still present, a thorough examination with the aid of the esophagoscope should be done to establish or eliminate the doubt of disease in this vicinity.

Malignancy of the thoracic portion can be observed in its early stage, often before the obstructive phenomena suggest a growth or before it has assumed sufficient proportions to present itself into the lumen of the esophagoscope. This is by observing the disturbance of the movements

of the esophageal walls during the respiratory cycle through the esophagoscope. Functional testing of the esophagus can be tried according to Stark,<sup>3</sup> by placing a capsule or a pill into it during esophagoscopy and observing its muscular contraction.

The various new models of endoscopic instruments<sup>4</sup> have many improvements which make esophagoscopy a safe and easy procedure. Of course a knowledge of the anatomy of the esophagus, its course and relations, is a prerequisite. The exercise of gentleness in its use is to be emphasized. The examining tube must never be passed onward when the esophageal opening is not seen through its distal end. The instrument should not be used in a lifting, boring or prying manner. A disregard of these rules has no doubt been the cause of severe shock or of a fatal outcome as a result of rupture of the esophagus. With the assistance of the Haslinger head rest, it is possible to tilt the head and body of the patient in all directions while the esophagoscope is engaged when difficulty is encountered in locating the opening of the esophagus.

Case No. 2—*Carcinoma of the Esophagus.*

Mr. P. W., 65 years of age, was admitted to the Infirmary with a complaint of difficulty in swallowing for the past four months. This condition became progressively worse until his intake of food is limited now to liquids; as a result he has lost 40 pounds. He also complains of a discomfort and pressure sensation in the chest. Past history and family history were of no significance. X-ray studies, esophagoscopy and a biopsy established the diagnosis of malignancy.

The causative factors, which produce chronic esophageal stenosis, may be divided into two main groups; extraesophageal and endoesophageal. The extraesophageal acting by compression are malignant goiters, tumors of the mediastinum, as lymphadenoma, lymphosarcoma, malignancy and syphilis of the lungs, pleural effusions, aortic aneurysms and diseases of the spine. Almost all these causes have other predominating symptoms which make possible their recognition. The greater number of cases of esophageal stenosis, however, belong to the second group—the endoesophageal. These are strictures, spasms, pareses or paralyses, active granuloma and new growths. A complete history, a thorough physical examination and the usual laboratory procedures help to eliminate most from consideration, except new growths.

It is a matter of experience that a diagnosis of cancer of the esophagus is often made by x-ray

study alone and the patient is exposed to deep roentgen-ray therapy. At times there are spectacular results in the disappearance of symptoms and in the negative follow-up x-ray findings. As esophagoscopy and biopsy are not made prior to the treatment, it leads to a doubt as to whether or not the diagnosis is correct. There is also a loss of valuable scientific data, were it possible to demonstrate the type of the extremely radio-sensitive malignant growth that was cured by certain dosage of x-ray.

There are many cases of benign growths, especially papillomata, which, according to Jackson and quoted by R. McKinney,<sup>5</sup> exist in a symptomless manner; their presence would be more often discovered if esophagoscopy were practiced more routinely. Many, however, assume such proportions as to produce obstructive phenomena and show x-ray findings similar to malignancy. A very instructive case of this type has been reported by Ginsburg.<sup>6</sup> Patterson<sup>7</sup> tabulated from the literature 61 cases of benign neoplasms of the esophagus and in reporting a case of his own, is of the opinion that they occur more frequently than are reported. From a diagnostic and prognostic point of view a mere roentgenologic study is therefore not sufficient, but should be supplemented by an esophagoscopy and biopsy section. Besides, we must also consider the psychic state under which the patient is placed with a constant fear of cancer in his mind, when this could possibly have been avoided by esophagoscopy and a biopsy study.

In connection with the outline of the treatment, I wish to state that the usual clinical classification known as upper, middle and lower thirds does not seem to me to have much instructive value as landmarks, nor is it a guide in the surgical treatment. The upper and lower thirds consist of portions of the thoracic division. The first constriction which is just in the back of the cricoid, merely marks the beginning of the esophagus, while the lower constriction, which is at the hiatus of the esophagus, marks its end. Two other constrictions, the aortic, corresponding to the arch of the aorta, and the bronchial, which is 2 cm. lower, corresponding to the crossing of the left bronchus, are within the thoracic portion and both are about within equal distance from each end of the esophagus. A much better way is to adhere to the anatomical

division of cervical, thoracic and diaphragmo-abdominal.

Such a division is a better guide for surgical treatment also. Thus, when an early diagnosis is made of cervical involvement, there is some hope of success when radical surgery is undertaken, or exposure and implantation of radium, or the employment of electrocoagulation as outlined by Galloway.<sup>8</sup> Involvement of the diaphragmo-abdominal division suggests an approach through the abdomen.

The surgical treatment of the thoracic portion is still in a deplorable state. Mann and Saint<sup>9</sup> and Saint<sup>10</sup> in their experimental work on dogs enumerate the following factors which contribute to the operative difficulties and the resultant mediastinitis:

1. Anatomical situation; at times it is difficult to separate the esophagus from the pleura even in a normal condition, and more so in a cancerous state.

2. Lack of a true serosa, the peritoneum, which is of help in intestinal surgery by producing a plastic exudate over the line of incision and sealing off the operative area.

3. Poor blood supply. The mere cutting and tying of bleeders is sufficient to destroy its blood supply. In addition, the end-to-end sutures constrict the blood supply still further with subsequent necrosis above and below the line of sutures and even of the mucosa.

4. Physical environment with particular reference to the movement of respiration, which makes it hard to put the organ at rest.

5. Strength and character of the propulsion of food material.

6. Lack of an omentum."

The treatment of cancer of the thoracic portion is, therefore, still mainly palliative: deep x-ray therapy, intraluminal radium application, and dilatation. According to Jackson<sup>11</sup> metastases in cancer of the esophagus occur rather late in the disease. More of these patients die from starvation than from the actual cause. One must not depend on the destructive action of radium or x-ray to bring immediate relief to the stenosis, as their action is slow. Immediate and persistent dilations should be carried out, with the object of obtaining a lumen of sufficient size to allow the feeding of the patient. The normal esophageal wall has an ability to stretch 2 cm. Uninvolved portions are often found which will permit sufficient dilatation. Between the periods of dilatation, intubation may be attempted. This is accomplished by the introduction of a flexible metal tube through the constricted area which maintains an open esophageal lumen and facili-



tates the easy passage of food and subsequent dilatations.

Blind dilatation, which at times is permissible in benign stenoses, carries with it the danger of perforation in malignancy, due to the friability of the cancerous tissue which is often infected. Under the guidance of the esophagoscope the fiber or the metal olive tip bougies can be used, thus avoiding the possibility of making a false passage. Dilatation can be carried out until the final stage of metastases and toxemia.

Gastrostomy,<sup>1</sup> which seemingly offers a rational method of putting the esophagus at rest, has not been more effective in prolonging life than the above-outlined treatment, besides adding to the risk and often causing a very quick exitus of the patient.

Case 3.—*Stricture of Cervical Esophagus.*

Mrs. S. B., 35 years of age, was admitted to the out patient department of the Infirmary with a history of difficulty in swallowing solid food for the past ten years and consequent loss of weight.

About nine years ago an operation was performed on the right side of her neck for the removal of a cystic growth of the tongue. A scar is visible along the level of the hyoid bone from the midline to the anterior border of the sternomastoid muscle. The right side of the tongue is fixed to the floor of the mouth and there is a hampered movement of the left side. The first impression is that of an operative injury of the hypoglossal nerve and also of postoperative stricture of the esophagus. However, upon close questioning it was learned that dilatation of the esophagus under general anesthesia was carried out ten and twenty years ago. Each dilatation brought relief lasting for several months.

Physical and laboratory tests have eliminated tuberculosis or syphilis as an etiological factor. X-ray examination with a barium meal was very unsatisfactory and no opinion could be rendered by our roentgenologist. Esophagoscopy under a local anesthetic revealed a dense scar just below the cricoid which impeded further advancement of the instrument. With an infants' bronchoscope the stricture was finally passed, and was found to measure 2 cm. No other strictures were found after passing this area.

The etiological factors of strictures are at times difficult to obtain. Adults who have swallowed some caustic with suicidal intent are often reluctant to volunteer the information. However, we must bear in mind that some of these strictures may be congenital or the resultant stricture from swallowing a caustic during childhood was of a mild nature producing no symptoms at that time, and the accident was forgotten. Others may be due to healed simple

or specific ulcers. Ruptured varicose veins of the esophagus may heal with the formation of an occluding scar. They often simulate a gastric ulcer and lead to unnecessary dieting and operative interference. These are difficult cases to diagnose by ordinary means unless the condition is suspected or esophagoscopy is practiced more routinely. A rare case of stricture following the healing of pemphigus is reported by Imperatori.<sup>12</sup>

In this patient the stricture, undoubtedly, dates to early childhood. Formerly, when the manufacturing of soap in the home was a custom, it was not unusual to meet numerous cases of esophageal strictures in children as a result of drinking lye solutions. Nowadays, the presence of other caustics in the home—antiseptics, washing and cleaning fluids—are instrumental in bringing forth an occasional case and its consequent complication.

When single, the usual location of the stricture is along the natural constrictions of the thoracic portion of the esophagus, namely, the bronchial and aortic areas; then, next frequently, the post-cricoid and cervical portion, and least frequently the diaphragmatic. Multiple strictures have no definite location.

The clinical picture following the accidental swallowing of a caustic by a child and the use of a string as a guide for the bougies is well described in the text-books. There is general agreement that the earlier these children are treated by dilatation after the subsidence of the acute symptoms, the better are the results in avoiding marked strictures or complete closure. Tucker of Philadelphia<sup>13</sup> has devised a special bougie which he uses in a retrograde manner in children in whom a gastrostomy becomes necessary for the feeding. Gill<sup>14</sup> reports a case of stricture of the esophagus in an 18-months-old child upon whom a gastrostomy was performed and the esophagus dilated 356 times by the retrograde method with the Tucker bougie during a period of 27 months. Imperatori<sup>15</sup> also reports the successful use of the Tucker bougie in an adult. After the gastrostomy wound has healed a string is swallowed by the patient and its end is picked up in the stomach. To this is attached a much stouter string, to the distal end of which the bougie is tied and pulled upward through the stomach and into the pharynx. The Tucker bougie, being molded of a high-grade elastic

rubber over a stout braided string, decreases in its thickness when traction is made on it from both ends. This permits its passage through the strictured area and upon relaxation its thickness increases and thus exerts its dilating effect upon the stricture.

I found no reports in the literature of malignancy arising as a result of a stricture, with the exception of a case report by Myerson.<sup>17</sup> However, Dr. Haslinger<sup>18</sup> of the Hajek clinic in Vienna mentions strictures as an etiological factor in cancer of the esophagus. No doubt strictures following the healing of specific ulcers or peptic ulcers of the diaphragmo-abdominal portion of the esophagus may undergo malignant degeneration in the same way as it occurs in the stomach. Strictures following caustics can be considered as having a benign potentiality. They are, however, very often a causative factor of acute stenosis by the lodgement of seeds or semi-solid food. Attempts to force the passage by the use of a stomach tube or bougies during such an attack often result in compression of the food into a semi-solid plug. That such attempts carry with them the danger of perforation can be rightly inferred from a report of a case of a spontaneous rupture of a benign stricture of the esophagus by Vinson.<sup>16</sup> A patient, 19 years of age, who had suffered from an esophageal stricture for 17½ years has undergone numerous dilatations for it. Two months after the last dilatation, some meat got lodged in the esophagus and after numerous attempts to dislodge it with ordinary efforts at swallowing during a period of 18 hours, the patient used extreme force in swallowing water with a result of rupture of the esophagus. Severe shock and pyopneumothorax had set in and the patient expired within two days. Only piecemeal removal of such plugs with the aid of the esophagoscope is a safe method in restoring the free lumen.

I have had experience with patients upon whom this emergency procedure had to be repeated often, due to their neglect in returning for the necessary treatment of the stricture. With the advent of old age, when the general muscular and tissue relaxation takes place, the strictured area also loses its contractile property, and causes little inconvenience; up to that period, however, it requires frequent attention.

The various mechanical dilators described in our textbooks, having for their principle the rapid

dilatation of the stricture, do not appeal to me as a safe medium. The shock is too severe, aside from the danger of a sudden tear and consequent mediastinitis.

Some still adhere to the string method in adults. It is my preference especially in ambulatory patients to conduct the first few dilatations under the guidance of the esophagoscope with the olive point or fiber bougies. There is no delay or failure, as when in using the string. The passage of the esophagoscope is well tolerated if done properly. When sufficient dilatation has been obtained, then even blind bouginage may be undertaken. The metal olive tip also gives an idea of the extent of the stricture, and the fiber bougies are employed best to maintain the dilatation for one-half to one hour after the esophagoscope has been removed. No accidents occur from the use of this gradual dilatation, as the circular and longitudinal muscle fibers offer a very good protection.

The only weak spot or defect in the muscular structure of the esophagus is an area extending 3 or 4 cm. below the cricoid cartilage. Here is where the longitudinal fibers diverge from the posterior surface of the esophagus toward the anterior surface, by forming two tendinous bands which become attached to the cricoid cartilage. This results in a V-shaped area posteriorly, which consists only of the circular muscle coat and some fibers of the inferior constrictor muscle. This anatomical arrangement must be kept in mind when dilatation is attempted in strictures below the cricoid, which happens to be the case in this patient. Added gentleness and caution must be exercised to avoid a rupture and its sequelae.

The most gratifying results are achieved in these patients. There is an increase in weight, vitality, and ambition after several dilatations. In malignant cases, however, all measures, including dilatation, are unrewarded by success at the end, except that of having had the satisfaction of prolonging a human life.

Conclusions: The perfection of the esophagoscope has made possible the ease of its use in the diagnosis and treatment of many diseases of the esophagus. Esophagoscopy is no longer considered as a mere medium for the removal of foreign bodies, but it often supersedes all other methods of examination at arriving at a definite conclusion as to the underlying disease. It, there-



fore, deserves a more popular utilization by the internist and the specialist.

310 S. Michigan Blvd.

#### BIBLIOGRAPHY

1. Graham, E. A., and Ballou, H. C.: Cancer of the Esophagus, Surgical Aspects. *Ann. Otol., Rhin. & Laryn.* 40:895, 1931.
2. Ernst, E. C.: Cancer of the Esophagus, Roentgenologic Aspects. *Ann. Otol., Rhin. & Laryn.* 40:870, 1931.
3. Mosher, H. P.: Chapter on Esophagoscopy in *Operative Surgery of the Nose, Throat and Ear*. Loeb, E. V. Mosby Co., St. Louis, 1917.
4. Richards, L.: Recent Developments in the Proximally Lighted Bronchoscope. *Ann. Otol. Rhin. & Laryn.* 40:1217, 1931.
5. McKinney, R.: Papilloma of the Lower End of the Esophagus in a Child. *Ann. Otol., Rhin. & Laryn.* 40:918, 1931.
6. Ginsburg, L.: Multiple Papillomas of the Esophagus. *Arch. Otolaryn.* 14:570, 1931.
7. Patterson, E. J.: Benign neoplasms of the esophagus. *Ann. Otol., Rhin. & Laryn.* 41:942, 1932.
8. Galloway, T. C.: An Approach to Carcinoma of the Cervical Esophagus; Two Stage Operation with Diathermy. *Ann. Otol., Rhin. & Laryn.* 40:550, 1931.
9. Mann, F. C., and Saint, J. H.: Experimental Surgery of the Esophagus. *Arch. Surg.* 18:2324, 1929.
10. Saint, J. H.: Surgery of the Esophagus. *Arch. Surg.* 19:53, 1929.
11. Jackson, C.: Cancer of the Esophagus, Esophagoscopy Aspects. *Ann. Otol., Rhin. & Laryn.* 40:886, 1931.
12. Imperatori, C. J.: Stricture of the Esophagus Caused by Pemphigus. *Ann. Otol., Rhin. & Laryn.* 40:1192, 1931.
13. Tucker, G.: Strictures of the Esophagus, Diagnosis and Treatment. *Laryngoscope*, 41:426, 1931.
14. Gill, E. G.: Cicatricial Stenosis of the Esophagus. *Ann. Otol., Rhin. & Laryn.* 41:951, 1932.
15. Imperatori, C. J.: Complete Atresia of the Esophagus. *Ann. Otol., Rhin. & Laryn.* 40:1194, 1931.
16. Vinson, P. P.: Spontaneous perforation of benign Stricture of the Esophagus. *Arch. Otolaryn.* 16:329, 1932.
17. Myerson, M. C.: Carcinoma of the Esophagus engrafted upon a lye stricture of twenty-six years' duration. *Ann. Otol. Rhin. & Laryn.* 42:1224, 1933.
18. Haslinger, F.: Personal communication.

### THE TREATMENT OF GONORRHEAL INFECTIONS WITH NEO-VONARGEN INTRAVENOUSLY ADMINISTERED

JOSEPH E. F. LAIBE, M. D.

CHICAGO

The treatment of certain complications of gonorrhea with Diamindisulphoricinargentum (Neo-Vonargen) by intravenous injections was the subject of my addresses before the Eighty-first Annual Meeting of the Illinois State Medical Society in East St. Louis, May, 1931. Here we will discuss acute and chronic gonorrhea with its complications, and present case reports showing the action of increased doses of the above drug. Although the efficacy of intravenous injections in the treatment of gonorrhea is a much discussed question, there are now many drugs administered by this method with varying degrees of success.

We have used Neo-Vonargen in various strengths, from 1/8% to 5%, without any untoward effects. By experiments on animals, it has been determined that the maximum tolerated dose was 0.3cc per kilogram body weight, and the minimum lethal dose averaged .314cc per kilogram body weight, figured as full strength drug. The largest dose used is 10cc of a 5% solution, and from this we compute the therapeutic index which is over 36. Hence the safety with which the drug has been given. The danger of argyrosis is negligible as, according to Lewin's Work on Silver preparations, we would have to give over 250 injections before there would be sufficient silver in the body to produce any symptoms. In animals who had received repeated injections of Neo-Vonargen in doses close to the maximum tolerated dose, micro-analysis of various organs showed no presence of silver in a period of time, varying from three days to a month after the last injection.

In the system the drug seems to have a two-fold action—the detoxification of toxins, and a stimulation of the cells of the reticulo endothelial system. That the cells of the R. E. S. are active in cases of gonorrhea and that electro-negative colloids stimulate their activity has been very amply demonstrated in a recent article by E. A. Sselkow.

He showed that the cells of the R. E. S. (the fibrocytes) are transformed under a stimulus (the stimulant may be a foreign body, a chemical, or bacteria which may cause an irritation of the area) and evolve through a series of changes into histiocytes and monocytes which are capable of ingesting gonococci, agglutinating and digesting them in their protoplasm. The irritated fibrocyte becomes the histiocyte or monocyte. The digestion of the agglutinated gonococci seems to be carried on as a diffused lysis. During the digestion, an endotoxin is given off which may cause further irritation of the area, or may be absorbed on the surface of the erythrocytes and cause a toxicosis. However, the action of the polymorphonuclear leukocytes is distinct from the action of the histiocytes, as they are not capable of agglutinating or digesting the gonococci. H. Felke holds that the gonococci are capable of living and multiplying in the protoplasm of the leukocyte. This would be very important in the development of complications and metastatic in-

fections, since the medium of transportation is then explained. However, considering the possibility of growth within the leukocyte and the killing of the gonococcus by the histiomonocytes, we can readily see that an increased action of the histiocytes would tend to decrease the number of live gonococci ingested by the leukocytes and tend toward a more favorable prognosis.

Since it is a generally concluded fact that gonococci produce an endotoxin which may cause systemic disturbances and which is certainly active in many of the complications of the disease, a drug which is capable of detoxifying these toxins and has the power of stimulating the action of the cells of the R. E. S. would be preferred over other drugs. Neo-Vonargen seems to be such a drug. It is an electro-negative colloid which is isotonic and reduces surface tension.

The reduction of surface tension facilitates the wetting of bacteria and in this way would be an aid to the histiocytes and leukocytes in the ingestion of the bacteria. The work of several investigators, Larson, Evans & Nelson, E. B. Carmichael, and Larson & Nelson, has demonstrated the action of ricinoleic acid salts in the neutralization of toxins. Carmichael (1927) proved that the ricinoleic acid radicle was the effective agent in the process of detoxification. The work of Larson, Evans, and Nelson (1924) showed the detoxification to be an adsorption phenomena. These factors must all be considered in the discussion of clinical reports and are very important from a standpoint of activity of the drug. Further Neo-Vonargen is a very potent germicide, having a phenol co-efficient of 125.

We have collected 57 cases of gonorrheal infections treated with intravenous Neo-Vonargen, all of which were private cases. These will be discussed under various heads: "Acute Anterior Urethritis, Chronic Urethritis and Prostatitis, Epididymitis, and Arthritis." Injections were given in some daily, and in others at periods up to every three days, and results recorded. The best results were obtained from daily injections. In no case was there any evidence of a reaction, or a leukocytosis from the injections.

Thirteen cases of acute anterior urethritis were treated. The total number of injections varied from 2 to 22, with an average of 9. All were treated daily, except one who received 2 injections at an interval of 3 days. Gonorrhea was

proven in all cases by microscopic examination by Gram's method and were checked at the end of treatment by the routine provocative tests of silver nitrate and sounds. Some patients received local injection, also of 1/2% Neo-Vonargen and this seemed to aid in the speed of recovery. The patients who were hospitalized recovered much more rapidly, than those who were ambulatory. All cases in this group, except one who is still under treatment, have had no recurrence of symptoms.

A typical case is presented below: Male. Age 32. No previous venereal history. Copious discharge. Diagnosis on August 3, 1931. Smear positive and urine cloudy. Acute anterior gonorrheal urethritis. Intravenous injections of 10cc-3% Neo-Vonargen on August 3, 4, 5, 6, 7, 8, 10, & 12. Discharge entirely cleared up on August 13. Local urethral injections of 1/2% Neo-Vonargen were then given twice daily until August 19. August 20, patient was given injection of 1/2% silver nitrate solution in urethra. August 21, smear was negative. Subsequent smears negative. Patient discharged.

Fourteen cases of chronic urethritis and prostatitis were treated. Of these, 7 cases had had gonorrhea from 5 months to 1 year, 3 from 1 to 2 years, and 4 from 2 to 5 years. The symptoms in all cases were: morning drop, shreds in urine, and tender boggy prostate. The average number of injections given was sixteen, varying from 10 to 26. Seven were given daily injections, and the rest at intervals of 48 hours. In one case, no improvement was shown after 16 injections. This patient had been previously treated by local injections, vaccines, sounds, massages, and diathermy over a period of a year with no results. Patient is still under treatment. The remaining cases showed no evidence of symptoms upon discharge.

Case: Gonorrhea infection for 8 months. Discharge scant, a. m. drop, urine cloudy with shreds, smear positive, and hypertrophied prostate. Diagnosis chronic gonorrheal urethritis, prostatitis, and seminal vesiculitis. Patient given intravenous injections of 10cc-3% Neo-Vonargen every 48 hours for 24 days. Showed marked improvement. Second glass urine clear, smear 2 plus pus, prostatic hypertrophy reduced. Gave 8 more intravenous injections every 48 hours. Total of 20 injections in 40 days. Final examination: urine clear, smears negative, prostate normal, and no other subjective symptoms. Patient discharged.

Twenty-one cases of acute epididymitis were treated, three of which were bilateral and the remainder unilateral. All of these came on during the course of acute gonorrheal infections.



**CASE REPORTS OF GONORRHEA  
TREATED WITH NEO-VONARGEN ADMINISTERED INTRAVENOUSLY**  
**Injections 10cc each**

CASE	HISTORY	DIAGNOSIS	%	INTERVALS	No.	RESULTS
12	5 wk.	Acute Urethritis & Prostatitis.....	5	48 hr.	10	Discharged in 5 weeks
13	3 da.	Acute Urethritis.....	3	48 hr.	10	
			5	48 hr.	6	Discharged in 4½ weeks
16	5 da.	Acute Anterior & Posterior Urethritis (Local Injections).....	3	Daily	12	Discharged in 3½ weeks
26	3 da.	Acute Anterior Urethritis.....	3	Daily	4	Discharged in 2 weeks—Hospital
27	7 da.	Acute Anterior Urethritis.....	3	Daily	2	Discharged in 12 days—Hospital
29	10 da.	Acute Anterior Urethritis.....	3	Daily	10	Discharged in 2½ weeks—Hospital
30	7 da.	Acute Anterior Urethritis.....	3	Daily	11	Discharged in 4 weeks—Hospital
33	8 da.	Acute Anterior Urethritis.....	3	Daily	7	Discharged in 3 weeks—Hospital
39	3 da.	Acute Anterior Urethritis.....	3	Daily	2	Discharged in 4 days—Hospital
40	7 da.	Acute Anterior Urethritis.....	3	Daily	3	Discharged in 5 days—Hospital
43	5 da.	Acute Anterior Urethritis.....	3	Daily	3	Discharged in 6 days—Hospital
46	14 da.	Acute Anterior Urethritis (Local Injections).....	3	48 hr.	8	Discharged in 3 weeks
49	8 da.	Acute Anterior Urethritis (Local Injections).....	5	Daily	5	
			5	48 hr.	10	Discharged in 6 weeks
50	21 da.	Acute Anterior Urethritis.....	5	Daily	10	
			5	48 hr.	12	Discharged in 5 weeks
54	2 wk.	Acute Anterior & Posterior Urethritis.....	2	72 hr.	3	
			3	48 hr.	9	Discharged in 3½ weeks
7	1 yr.	Chronic Urethritis.....	3	48 hr.	12	
			5	48 hr.	10	Discharged in 6 weeks
8	14 mo.	Chronic Urethritis.....	3	48 hr.	16	Discharged in 4 weeks
11	4 mo.	Chronic Urethritis & Prostatitis.....	5	48 hr.	13	Discharged in 7 weeks
15	3 yr.	Chronic Prostatitis.....	3	Daily	10	
			5	Daily	5	Discharged in 3 weeks
17	8 mo.	Chronic Urethritis.....	3	48 hr.	16	Treatment not concluded
19	8½ mo.	Chronic Urethritis.....	3	48 hr.	7	
			5	Daily	8	Discharged in 4 weeks
20	10 wk.	Chronic Urethritis.....	5	Daily	14	Discharged in 3 weeks
21	5 wk.	Chronic Urethritis.....	3	Daily	9	Discharged in 5 weeks
			3	48 hr.	7	
22	5 mo.	Chronic Urethritis.....	3 & 5	Daily	7	
			3 & 5	48 hr.	8	Discharged in 4½ weeks
25	2 yr.	Chronic Urethritis & Prostatitis.....	5	Daily	18	
			5	48 hr.	8	Discharged in 5 weeks
47	5 yr.	Chronic Urethritis & Prostatitis.....	5	Daily	5	
			Rest	Period	5 da.	
			5	Daily	5	Discharged in 3 weeks
48	3 yr.	Chronic Urethritis & Prostatitis.....	5	Daily	5	
			Rest	Period	5 da.	
			5	Daily	5	Discharged in 2½ weeks
51	8 mo.	Chronic Urethritis & Prostatitis.....	2	48 hr.	10	Discharged in 5 weeks
55	5 mo.	Chronic Prostatitis & Seminal Vesiculitis.....	3	Daily	10	Marked Improvement
			3	48 hr.	10	Treatment continued
4	21 da.	Acute Urethritis & Epididymitis (Local Injections).....	5	Daily	5	
			5	48 hr.	8	Discharged in 9 weeks
5	14 da.	Acute Urethritis & Epididymitis.....	5	Daily	6	
			5	Bi-weekly	6	Discharged in 4 weeks
6	10 mo.	Chronic Prostatitis & Epididymitis (Massage).....	5	48 hr.	3	
			5	72 hr.	10	Discharged in 5 weeks

CASE	HISTORY	DIAGNOSIS	%	INTERVALS	No.	RESULTS
9	14 da.	Acute Urethritis & Epididymitis.....	3	48 hr.	5	
			5	48 hr.	15	Discharged in 6 weeks
18	3½ mo.	Chronic Urethritis & Epididymitis.....	3	Daily	5	
			3	Daily	10	Discharged in 3½ weeks
24	3 wk.	Acute Urethritis & Epididymitis.....	3	Daily	5	
			3	48 hr.	9	Discharged in 4 weeks
28	14 da.	Acute Urethritis & Epididymitis.....	3	Daily	10	Discharged in 3 weeks—Hospital
31	12 da.	Acute Urethritis & Epididymitis.....	3	Daily	3	Discharged in 2 weeks—Hospital
32	10 da.	Acute Urethritis & Epididymitis.....	3	Daily	5	Discharged in 2½ weeks—Hospital
34	7 da.	Acute Urethritis & Epididymitis.....	3	Daily	9	Discharged in 3 weeks—Hospital
35	14 da.	Acute Urethritis & Epididymitis.....	3	Daily	4	Discharged in 2½ weeks—Hospital
36	12 da.	Acute Urethritis & Epididymitis.....	3	Daily	4	Discharged in 2½ weeks—Hospital
37	12 da.	Acute Urethritis & Epididymitis.....	3	Daily	5	Discharged in 3 weeks—Hospital
38	10 da.	Acute Urethritis & Epididymitis.....	3	Daily	4	Discharged in 2½ weeks—Hospital
41	12 da.	Acute Urethritis & Epididymitis.....	3	Daily	4	Discharged in 2½ weeks—Hospital
42	12 da.	Acute Urethritis & Epididymitis.....	3	Daily	5	Discharged in 3 weeks—Hospital
44	7 yr.	Epididymitis.....	5	Daily	2	
			5	48 hr.	3	Discharged in 10 days
45	10 da.	Acute Urethritis & Epididymitis.....	5	Daily	5	Discharged in 2 weeks
52	5 mo.	Chronic Prostatitis & Epididymitis.....	2	Daily	4	Marked Improvement
			5	48 hr.	10	Treatment continued
53	12 da.	Acute Epididymitis.....	3	Daily	2	Symptoms cleared. Did not return
57	7 da.	Acute Urethritis & Epididymitis.....	2	Daily	7	Discharged in 10 days
1	3 yr.	Arthritis.....	5	48 hr.	14	No symptoms after 28 days
2	14 mo.	Arthritis.....	5	Daily	11	Discharged in 5 weeks
3	7 wk.	Arthritis & Urethritis.....	5	Daily	9	G. C. symptoms cleared
			5	48 hr.	7	Treatment continued
10	8 mo.	Arthritis & Prostatitis & Seminal Vesiculitis.....	3	48 hr.	20	Discharged in 8 weeks
14	3 yr.	Chronic Arthritis.....	1	48 hr.	6	
			3	48 hr.	10	
			5	48 hr.	10	Discharged in 8 weeks
23	2 yr.	Chronic Arthritis & Impotence.....	5	Daily	10	All cleared up except Impotence. Treatment continued
			5	Daily	14	
56	2½ yr.	Chronic Arthritis.....	1	Daily	6	
			2	48 hr.	8	
			3	48 hr.	10	Discharged in 5½ weeks

None had received previous intravenous Neo-Vonargen. In 10 cases, there was no more discharge and smears were negative, after the epididymitis had receded. They received no further treatment. The average number of injections, from time of onset of epididymitis until the return to normal, was 5. In all cases there was a marked decrease in the size of the epididymus and relief from pain 24 hours after the first injection. The epididymus returned to normal generally in about 5 days. However, there were 3 that required 10 days, one 9 days, and one 7 days. Treatment was continued until all gonorrheal symptoms had disappeared, and patient was discharged.

*Case:* Came to office on June 22, 1931. After a long auto trip developed acute G. C. urethritis. Enroute and being unable to take care of himself developed an acute posterior involvement, complicated with a bilateral epididymitis. Was given intravenous injections of 5% Neo-Vonargen daily for 5 days consecutively with Hex-alet internally and hydro-therapeutic measures when epididymitis returned to normal. The second week, he received intravenous injections of 5% every other day and local instillations of 3% Neo-Vonargen. The smears were still strongly positive, but only intracellular micro-organisms were found; whereas upon admittance, extracellular organisms were predominating. Temperature ranged from 99° to 102.4°. No rigors. After two weeks, urine began to clear; and in the third week both glasses were clear. Rectally examination in third week shows the prostate firm and nodular and vesicles palpable, but not atonic. Expressed secretion shows pus 2 plus. Stains failed to reveal any gonococci. August 29, 1931, no shreds in urine, no morning drop, prostatic secretion 1 plus pus, no spermatozoa or fragments thereof. November 5, 1931, urine negative, no discharge, and prostatic secretion, and had very few pus cells. No sperms and few amyloid bodies, lecithin.

Six cases of gonorrheal arthritis were treated by us. The average number of injections was 17. The least for one case was 11, and the greatest number 24.

One case failed to respond to treatment, however, an x-ray showed complete ankylosis of the right hip and destruction of the head of the femur. Follow-up examination on this case shows that urethritis and prostatitis cleared up, pulse returned to normal, and first and second glasses of urine clear, third glass shows a few specks. In all cases after the fourth to sixth injections, the arthritic pains subsided. Treatment was then continued until patients had completely recovered.

*Case:* Chronic G. C. arthritis for 2½ years. Necessitated crutches to get around. Continuous dull pain, sometimes sharp. Intra and extra cellular gonococci found in smear. Treatment of six intravenous injections of 10cc-1% Neo-Vonargen every 24 hours showed a slight physical improvement with reduced pain. Then 8 intravenous injections of 10cc-2% Neo-Vonargen every 48 hours showed decided physical improvement and still less pain. After 10 more intravenous injections of 10cc 3% Neo-Vonargen every 24 or 48 hours showed complete physical relief. Crutches discarded, no pain, no gonococci found in smear. This Neo-Vonargen treatment patient received no other treatment) was administered for about 5½ weeks. Patient discharged as cured. Reported 10 days later and had no symptoms or pain. Feels entirely well.

In my previous address, I discussed the treatment of 11 cases of epididymitis by intravenous injections of ¼ and ½% Neo-Vonargen. A comparison of the results obtained by us brings out the fact that the increased dosage brings about much better results without any deleterious effects.

## SUMMARY

None of the patients treated had any systemic reactions from the injections.

Neo-Vonargen seems to have the power of neutralizing toxins, reducing the severity, and hastening recovery from the disease.

None of the patients treated by this method for acute urethritis developed complications.

Since nearly all the cases were brought to a favorable conclusion without any reactions, and since the action of Neo-Vonargen cannot be entirely attributed to direct germicidal action; it would seem probable that there is a neutralization of the toxic antigens, and a stimulation of the defense mechanism of the system which speeds up recovery.

Intravenous injections of Neo-Vonargen are a valuable treatment in gonorrheal infections and their complications.

In conclusion, I wish to thank Drs. D. F. Rudnick, A. J. Sullivan, and P. G. Pitchios for their kindness and co-operation in recording data.

25 East Washington St.

## REFERENCES

- L. Lewin: Gifte und Vergiftungen, page 251. Berlin, 1929.
- E. A. Sselkow: Ztschr. F. Urols., 25:48, 1931.
- H. Felke: Munchen Med. Wchnschr., 78:747, 1931.
- Abst. Ven. Dis. Inf., U. S. Treas. Dept. Vol. 12, No. 8:365
- Larson, Evans, & Nelson: Soc. Exper. Med. & Biol., 24:194, 1924.
- E. B. Carmichael: J. Pharm. & Exper. Therap. 31:445, 1929.
- Larson & Nelson: Soc. Exper. Med. & Biol., 22:337, 1925.
- Joseph E. F. Laibe: Ill. Med. Jr., June, 1931.



## VIOSTEROL IN PREGNANCY\* A REVIEW OF 300 CASES

GARWOOD C. RICHARDSON, B.Sc., M.D., F.A.C.S.

CHICAGO

The presentation of viosterol to the medical profession, like other recent contributions to our therapeutic armamentarium, has opened new lines of thought, and of investigation regarding the usefulness of vitamin D, and of calcium medication.

Viosterol, introduced some five years ago, primarily for its pediatric value, has proved useful also in obstetrics, and other branches of medicine. It has renewed interest in calcium therapy of which it is part and parcel. Irradiated ergosterol is justly termed the calcium metabolizer. In practical application the two are invaluable and for their greatest success inseparable.

The original article, "The Role of Viosterol in Pregnancy," an address before the surgical section of the Illinois State Medical Society, May, 1931, has been criticized as presenting too much personal enthusiasm. That criticism was justified in part at least by the fact that the time was insufficient for the presentation of a vast array of statistics.

This review of the results of viosterol in pregnancy includes three hundred consecutive cases, 201 of which had viosterol, and 99 that did not. Of this number 195 were primiparas, 105 multiparas. In the primipara group, 132, or two-thirds, had viosterol and 63, or one-third, had none.

Now after trebling the number of cases which formed the basis of the original paper, the enthusiasm remains the same, amplified, by statistics, which, after all, are only in keeping with the general enthusiasm in vitamin D and calcium therapy, as evidenced by the fact that today one scarcely reads a medical periodical without finding some article dealing with a phase of calcium metabolism.

The application of viosterol to pregnancy was prompted by the hope of presenting a more satisfactory means of treating tetany of pregnancy. All that followed was entirely unexpected and unsought for, and came only by way of observation. These results were so numerous and in-

teresting that early report was deferred to complete a study of other phases of viosterol in pregnancy.

Early observations revealed the fact that pregnancy and lactation produce a marked calcium and phosphorus deficiency, fundamentally a relative situation but quite significant clinically. This fact was born out by a series of blood calcium and blood phosphorus estimations made during pregnancy, lactation, and the puerperium. Approximately 50 blood calcium and phosphorus estimations were made. The results varied so slightly from the present accepted normals, that they will not here be tabulated. The calcium estimations were either low normal, or but slightly under normal limits. The phosphorus results presented a higher deficiency on a percentage basis. The lowest calcium estimation was 5.6 mg. per 100 c.c., the majority ranged from 8 to 8.8 mg. per 100 c.c. with but two of 9 mg. or over and none of 10 mg. or more. The phosphorus estimations were all between 3.3 and 4 mg. per 100 c.c. The administration of viosterol increased the blood calcium to 9.5 to 10 mg. and in two instances respectively, to 10.5 mg. to 11.5 mg., the latter being in a nursing mother.

The above estimates show that pregnancy produces a relative deficiency inasmuch as the low normals are inadequate to the added burden of a rapidly growing fetus in utero, and actual inasmuch as this extra burden produced in some instances a calcium level below the present accepted normals of 9 to 11 mg. per 100 c.c.

In view of the slight abnormal deviations, necessary to produce symptoms of calcium deficiency it would seem that the norms at present accepted are too low. The symptomatic response to viosterol-calcium therapy, together with the rises cited in the blood calcium levels, would also warrant the acceptance of higher norms. It would seem that 9.5 to 12 mg. or possibly even 10 to 12 mg. per 100 c.c. would be more nearly correct and assure a greater freedom from symptoms as well as improved vitality. This contention is borne out by Cantarow<sup>1</sup> who quotes a number of investigations reporting average calcium levels at various ages in life. These range downward from 13.5 mg. in the newborn to 11.6 in early adult life and 9.7 to 10 mg. in old age, all above the present accepted norms.

\*Paper read before Will-Grundy County Medical Society, March 9, 1932.

There are in addition to pregnancy dietary reasons for a calcium deficiency. Sherman<sup>2</sup> found that the average American diet contained 0.45 gm. of calcium and that 1 gm. represents the approximate daily requirement to maintain the calcium equilibrium in the normal individual. Sherman goes further and recommends 1 gm. of calcium for each 100 gms. of protein ingested.

The calcium requirements of the fetus increase the calcium demand on the mother. Hoffstroem<sup>3</sup> calculated that in the fetus the calcium content increases from 5.39 gms. at the 28 *th* week, to 30.51 gms. at term. The calcium balance of the growing fetus, according to Bosworth, Bowditch and Gimblin,<sup>4</sup> requires 0.006 gm. per day during the first four months of gestation, increasing to more than 0.6 gm. per day at term, and averaging according to Givens and Macy<sup>5</sup> 0.1 gm. per day for the whole pregnancy. The infant at breast requires 0.13 to 0.17 gm. calcium oxide<sup>6</sup> daily.

To the demands of the material organism must be added those of the fetus or nursing infant and it is obvious that the calcium equilibrium will require the ingestion of about 1½ gms. daily.

Briefly, Calcium Metabolism<sup>7</sup> involves:

1. The Supply—necessarily dietary.
2. Absorption—with the attendant assimilation and deposition.
3. Utilization—by withdrawal, distribution, dissipation and excretion.

The first of these factors is readily controlled. Calcium is supplied in milk, vegetables, prepared cereals, sunwheat cookies, and by chemical calcium, which is absorbed in direct proportion to the relative solubilities.

The second factor, also easily controlled, depends physiologically upon ergosterol, normally present in the skin and dependent, for its efficacy, upon irradiation by natural or artificial sunlight. Activated ergosterol aids in, or controls the absorption of calcium, from the gastrointestinal tract in a form capable of assimilation by the various body tissues and capable of deposition in the bone. This absorption is facilitated by a normal gastric acidity and by any factor reducing intestinal alkalinity.

The third factor has to do with the parathyroid function of withdrawal of calcium from the spongiosa of the bones for utilization by blood

and tissues. The calcium is utilized and the excess is given up for elimination by way of the kidneys and intestinal tract.

As to pregnancy the symptom syndrome of tetany is most commonly encountered. Stevens<sup>8</sup> states that his disorder terminates fatally in 7 per cent of the cases if untreated. The usual incidence of the disease cited is about 15 per cent, which is far too low. About 75 per cent would be more nearly correct. In this series of 300 cases the incidence was approximately 90 per cent. This is not considered representative, but is due to two factors—first, because the greater proportion were winter pregnancies and consequently lacked the usual sunlight and dietary control; second, this entire series was taken from a depression period, wherein food values generally were subnormal. Furthermore, the better understanding of tetany symptoms lead naturally to the inclusion of cases not previously considered as tetany.

The outstanding symptoms of tetany of pregnancy are the cachexia<sup>9</sup> and the muscle contractures. The cachexia frequently occurs even in the early months, as a result of toxemia. It spontaneously improves only to recur later. Muscular weakness and exhaustion occur as a part of the tetany in upward of 50 per cent of all cases.

The muscle contractures observed in the posterior group of leg muscles occurred in 80 per cent of this series. The usual time was toward the waking hours while in the more severe cases the contractures extended into or through the day. The number of such instances can not be accurately estimated, as viosterol-calcium therapy was usually begun before the tetany progressed to such severity.

The Trousseau and Choostik signs so common to tetany of infancy are usually not seen in pregnancy.

Other signs<sup>7</sup> are puffiness of face, hands and fingers, tingling and numbness of fingers and extremities, localized swellings of the limbs, pallor, thinning of the hair, dental caries and increased brittleness of the teeth and thinning and brittleness of the nails.

Of special interest was the severity and frequency of tetany in twin pregnancies, five of which are included in this series. The tetanies were much more severe, were manifested earlier and occurred in 100 per cent of such pregnancies.



Two progressed to the point of having laryngeal spasm and one to the loss of consciousness through lack of oxygenation. A series of 8 or 10 paroxysms of lesser laryngeal spasms came under direct observation. These had been too lightly dealt with, at first, from an impression of hysterical origin, which was due to inadequate description of the condition by the patient. In both twin cases with laryngeal spasm one baby was still-born, and the other born alive and in good condition. Neither presented any mechanical factor sufficient to explain death. Both histories seemed to show that the fetal fatalities occurred several days prior to the onset of labor, and in both instances, the tetany improved after fetal death. In every instance calcium-viosterol were necessary for the alleviation of symptoms, and in every instance the symptoms recurred with each omission of one or two doses of either the viosterol or calcium.

Scarcely second in importance among the observations in this study was the unexpected influence of viosterol on labor. This factor is now presented for the first time. It was purposely withheld from the first discussion of this subject for purpose of further study and more perfect control of cases. The reduction in duration of labor was not only surprising as a general observation, but even more so, in examining the figures for preparation of this paper.

Only primiparous labor will be discussed here because first labors are generally accepted as longer and more difficult. Furthermore, anything may be expected in way of brevity in a multiparous labor and a long tedious first labor may easily be followed by an almost precipitous labor subsequently.

Of the 300 cases herein presented 195 were primiparas. Of these, 132 were given viosterol and 63 were not. The combined labors of the 132 viosterol patients totaled 792 hours or an average of 6 hours per patient, just one-third the length of the average first labor. The combined labors of the 63 non-viosterol patients totaled 1,197 hours or 405 hours longer than the total 132 viosterol cases. This total of 1,197 hours of labor for the 63 non-viosterol patients averaged 19 hours per labor or more than 3 times the length of those having had viosterol, and incidentally 1 hour above the average for first labors. Due to the irregularity in the length

of multiparous labor all multiparas are grouped together. There were 105 multiparas (viosterol and non-viosterol), with a total of 367.5 hours labor, averaging 3.5 hours per patient. Thus the viosterol cases apparently lowered the average length of labor of the entire multipara group.

Of the primipara viosterol group the shortest labor was 1.5 hours and the baby weighed 10.5 pounds, while the longest labor was 30 hours. There were three of 18 hours, three of 10 hours, six of 2 hours, nineteen of 3 hours and in the majority the time ran from 4 to 6 hours.

Of the non-viosterol primiparas the shortest labor was 8 hours and the longest 90 hours.

These results may be explained by the improved general condition of the patient. In such women the uterine contractions are more active and more productive. The response to stimulation is improved and the general muscle tone is better. The cervix effaces and dilates more readily and requires less force. The perineum is more elastic and the tissues are definitely more vital as the episiotomy shows.

The relation of the calcium-viosterol metabolism to eclampsia is purposely omitted. This series of cases presented but one eclampsia, a Christian Scientist who was non-cooperative, and one pre-eclamptic who responded to dietary measures and was primarily on a renal basis and not a true eclamptic.

There were a number of hypertensions of undetermined origin which responded to viosterol or viosterol and calcium. Thirty-four cases showed a rise in blood pressure when first seen, or secondarily during the course of the pregnancy. All responded to calcium, viosterol, or to Lugols' solution, or to two or more of these measures.

In the graver toxemias guanidine appears to be more and more accepted as the toxic agent. It is normally neutralized by calcium, and therefore to neutralize this toxin in pregnancy either calcium or viosterol or both must be supplied.

Dental caries was observed in 19 per cent. and brittleness of the teeth with or without caries in 55 per cent. Both conditions may be improved in 10 days and usually completely controlled in two weeks.

Blood-loss is greatly reduced on account of the improved uterine tone, which more adequately clamps off the large vessels and sinuses at the placental site. It may be due also to the

improved coagulation time. Seventy-four cases presented practically no blood loss other than that expelled with the placenta and contained within the membranes, and thus represented only the retroplacental bleeding involved in placental separation. Sixty-eight others showed very slight bleeding. All cases of marked bleeding among the viosterol recipients were accounted for by lacerations of spontaneous or instrumental origin, and were sufficient in extent to require sutures. Ninety-nine cases of this series received neither viosterol nor calcium. Actual coagulation times were not taken in this series but in 10 other patients who had viosterol and calcium in preparation for motion pictures of the episiotomy repair, definite reductions in coagulation time were noted, and the average was reduced 45 per cent.

Friability of the perineum is overcome by a definitely increased vitality of the tissues. In repairs, the healing is more prompt and more firm. Where viosterol was given, 48 patients in this series previously delivered in my service, were found to have definitely better perineums. The friability or wet blotting paper characteristic of the flesh was markedly decreased.

Statistics on varicosities<sup>7</sup> are not given, for while viosterol and calcium are at least an aid in arresting varicose vein formation, yet the frequency with which vein injection is resorted to with so satisfactory results makes a proper estimation of benefits derived from this therapy not easily obtained.

30 N. Michigan Ave.

#### BIBLIOGRAPHY

1. Cantarow, A.: Calcium Metabolism and Calcium Therapy, Lea & Febiger, Phila., 1931, p. 45.
2. Sherman, H. C.: Calcium Requirement of Maintenance in Man. *J. Biol. Chem.* **44**, 21-27, 1920.
3. Sherman, H. C. and Hawley, E.: Calcium and Phosphorus Metabolism in Childhood, *J. Biol. Chem.* **53**, 375-399, 1922.
3. Hoffstroem, K.: Eine Stoffwechseluntersuchung während der Schwangerschaft, *Arch. f. Physiol.* **23**, 326-420, 1910.
4. Cantarow, A.: Calcium Metabolism and Calcium Therapy, p. 46.
5. Givens, M. H.: Studies in Calcium and Magnesium Metabolism, *J. Biol. Chem.* **35**, 241-251, 1918.
6. Orzler, A.: Der Kaltstoffwechsel des gesunden u. des rachitischen Kindes, *Ergeb. inn. Med. u. Kinderheilk.* **8**, 142-182, 1912.
7. Richardson, G. C.: Role of Viosterol in Pregnancy, *Ill. M. J.* **59**, 453-461, 1931.
8. Stevens, A. A.: The Practice of Medicine, 2d Ed. 1087, 1926.

## POSTOPERATIVE DIATHERMY IN PROSTATECTOMY\*

C. OTIS RITCH, M. D.

CHICAGO

The most important thing in the postoperative care of the prostatectomized patient is a sane and rational preoperative management. Obviously the more diligence and intelligence or clinical judgment manifested by the surgeon before the postoperative period, the greater number of patients to undergo full postoperative treatment. So with a clearer appreciation and evaluation during the pre-operative period one is able to anticipate and possibly avoid or forestall many of the troublesome postoperative sequelae, or, at any rate, institute proper therapy without loss of precious time. For if moments are ever "golden" they are golden at the beginning of some of these complications.

In elaborating upon this idea it possibly is well to review some of the oft repeated preoperative measures. None should serve to head the list except a careful history and painstaking general physical examination. Particular attention should be bestowed upon the cardiac, respiratory, renal and neurologic aspects. In the last, mindful of the tonus of muscles, especially the anal tonus, manometric readings are advantageous. The rectal examination should eliminate carcinoma, tuberculosis and sarcoma. The knowledge acquired from routine examination of the blood, including typing and coagulation time, and urine should be augmented by the cardiogram, blood Wassermann, twenty-four hour specimen of urine, and in particular instances cystograms and plain skiagrams for stones and metastases.

Blood chemistry should be a routine procedure, the blood nitrogen stable or below 35 milligrams. Likewise, functional tests should in no instance be neglected; the phenolsulphonphthalein ordinarily shows within five minutes and each kidney excretes about one per cent. per minute, the first fifteen minute period totaling about 25 to 30 per cent. The excretion in the second fifteen minute period is less.

Vigorous and over-zealous investigation should be avoided. Simply passing a soft rubber catheter not infrequently initiates a urosepsis. Care must be employed in determining upon instru-

\*From the Department of Urology, University of Illinois, Chicago.



mentation. Cystoscopy is by no means indicated in all cases, and in what appears to be uninfected urine might give rise to a septicemia and in infected cases emboli are not rare. Excretion urography, in certain instances, eliminates the necessity for cystoscopy.

A knowledge of the presence or absence of urethral stricture should be had.

In the event vas ligation is elected to prevent epididymitis, it should be done before much instrumentation. Epididymitis has not been a troublesome complication and consequently is not a routine procedure with me.

In cases with acute urinary retention decompression is the safe procedure. However, I have seen none of the alarming symptoms attributed to more hasty emptying of such a bladder, even though one contained as much as seventy-six ounces. A ureteral catheter or partially occluded soft rubber urethral catheter has been entirely satisfactory in my experience.

In cases with residual or infected urine, catheter drainage should be instituted, followed by preliminary cystotomy. I am decidedly partial to a two-stage operation, believing that if it is safer for a poor risk it is likewise safer for a good risk and these are major operations in all instances. Irrigations are of value in infected cases but sometimes aid in converting a non-infected into an infected case.

A bland nourishing diet with a copious fluid intake is requisite.

If possible a consultant should manage any extraordinary condition. I am partial to spinal anesthesia, however warning has been sounded against the use of spinal in digitalized patients. Deaths have been reported from this combination. As to the time to operate, Kretschmer<sup>1</sup> has aptly said, "One of the best indices is the patient himself, his appearance, his general feeling of well being, the condition of his tongue and skin, the return of his general strength. In cardiac and hypertensive conditions the rapidity and degree of improvement must be considered."

The interval between operations, in the main, does not differ greatly from that following the second stage. Checks on the blood counts, blood chemistry and functional tests in addition to the clinical condition of the patient helps one in determining the proper time for the second stage. The temperature chart helps one in de-

termining the presence and activity, or absence, of a pyelonephritis.

In the technical details of the operation itself the surgeon should bear in mind that a clean dissection in the proper line of cleavage reduces the tendency to hemorrhage, tags, strictures, impotency, incontinence and injuries to the vera montanum and ejaculatory ducts.

In the postoperative care of these patients no attempt should be made to reform them if they are accustomed to alcoholics. Caution must be exercised to see that they continue to get it. At least three liters of fluids each twenty-four hours should be insisted upon, either by mouth or "through the needle." I am not particularly fond of rectal administration except occasionally black coffee and brandy retention enemas. Stimulation is given as occasion requires or as previous knowledge indicates. Blood transfusions are readily resorted to in selected cases. These patients are propped up in bed and gotten out of bed as soon as possible, generally about the fifth or sixth day. A careful physical examination is made daily and a nourishing diet administered. Tonics are given as required. Elimination is promoted by laxatives. Not infrequently in patients running a high fever a most gratifying reduction of temperature follows the administration of a large dose of castor oil. The scrotum is routinely supported, which materially lessens the incidence of epididymitis. Renal, pulmonary and cardiac difficulties are anticipated or met as they present themselves.

Regardless of how clean a dissection of the gland the surgeon has accomplished there is always some sloughing, infection and inflammatory change. This is notably less in those in whom no pack or hemostatic bag has been used. Any foreign substance left in the prostatic bed materially increases the sloughing and infection. Fortunately, those requiring a bag or pack constitute only a small percentage of cases, that is, those in whom the gland is quite adherent so that the plane of cleavage is difficult to follow; and those in whom there is still much congestion, notably in primary or one-stage operations. In the great majority of all others the bladder neck readily contracts and controls the hemorrhage. Control may be further aided by pressing a sponge against the oozing area for a minute or two. When the sponge is removed the prostatic bed is dry and if it remains so for a couple of minutes the bladder may be closed around a

drainage tube without a bag or pack and practically without fear of immediate postoperative hemorrhage. Secondary hemorrhage may occur following any method but is less common in those cases in which no hemostatic agent was left in the prostatic cavity, since infection is less severe in such cases.

There are certain complications and sequelae which follow prostatectomy or result from the prolonged obstruction preceding operation in which I have found diathermy to be of distinct value. So far as I have been able to determine such a use of diathermy has not been discussed in the literature.

Boyd<sup>2</sup> pointed out the occurrence of seminal vesiculitis following prostatectomy. Practically all these patients have some frequency and nocturia for varying periods. A few will have their sleep interrupted for the balance of their lives because of the anatomical changes which have taken place in the bladder wall. Those due to inflammatory changes in the prostatic bed are materially helped by diathermy treatment.

Incontinence is another complication, which fortunately occurs infrequently, but nevertheless does occur in every surgeon's experience. Diathermy is valuable to hasten control in those of a temporary nature and aids in alleviating this distressing condition in the permanent variety.

The prostatic cavity fills in with fibroblastic tissue whose nature and position render it extremely liable to infection. Complaints of suprapubic pain, perineal discomfort, testicular pain, painful erections, pyuria, and vague joint and muscular pains may frequently be traced to an infected prostatic bed. In control of these diathermy has proved of value.

55 East Washington Street.

#### REFERENCES

1. Kretschmer, Herman L.: Prostatic Obstruction. *Wis. Med. Jour.*, 29:254-257, May, 1930.
2. Boyd, M. L.: Seminal Vesiculitis after Prostatectomy Due to Infection with *Micrococcus Catarrhalis*. *Jour. Urol.*, 10: 387-392, November, 1923.

#### OBSERVATIONS ON INDIVIDUAL SENSITIVENESS TO PAIN, WITH ESPECIAL REFERENCE TO ABDOMINAL DISORDERS

Emanuel Libman, New York (*Journal A. M. A.*, Feb. 3, 1934), discusses individual sensitiveness to pain, substitution symptoms and radiations of pain. Some other important subjects, such as sensitiveness of diseased blood vessels and pains due to them, can only be touched on. Besides summarizing his earlier publica-

tions, he gives a survey of recent investigations. Theoretical questions are not discussed. Many methods of gaging sensitiveness to pain have been suggested. The simple test that he employs is carried out by first pressing the thumb against the tip of the mastoid bone and then slipping the finger forward and pushing against the styloid process. Pressure on the normal mastoid bone causes no pain and therefore serves as a control. It is important not to rub the bone, because rubbing the periosteum of any bone is apt to evoke pain. Pressure in the direction of the styloid process is painful to some persons and not to others. The sensitive point is really not the styloid process but a branch of the auricularis magnus nerve. Algesimeters do not appear to be of service in practical clinical tests.

#### CLINICAL ASPECTS OF ABDOMINAL PAIN

F. M. Pottenger, Monrovia, Calif. (*Journal A. M. A.*, Feb. 3, 1934), states that exaggeration of a sensory stimulus, whether it is transmitted centrad over cranial or spinal afferent nerves from the skeletal structures or over the afferent systems that accompany the sympathetics and parasympathetics to the internal viscera, may lead to discomfort or pain. Pain is the automatic danger signal that tells the individual to beware, for the normal mechanism is irritated in an abnormal manner, or even its integrity may be threatened. In considering pain, it is necessary for the clinician to remember that the perception of painful stimuli is bound up with the patient's physiologic stability and that the complaint of sensory changes will differ greatly in different individuals. What may be a painful stimulus to one person may not be to another. The author discusses the following phases of pain as they pertain to abdominal pain: the visceral nervous system, the nature of visceral pain, the segmental nature of visceral pain, the difficulty of comprehending reflex effects, the difference in acute and chronic pain and the usual location of pain for the principal abdominal viscera.

#### AMEBIASIS: INCIDENCE IN PRIVATE PRACTICE

H. S. Sumerlin, San Diego, Calif. (*Journal A. M. A.*, Feb. 3, 1934), presents a survey that shows the incidence of intestinal protozoa in individuals of a higher social status than that of indigent persons. It is a summary of the results of routine examinations of the stools of 1,852 patients during the past four years. The results of the examinations in the cases of 1,339 adults and 513 children are listed separately to show the low incidence of protozoa as compared to adults. *Endamoeba histolytica* was found in thirty-one adults, or 2.3 per cent., and in two children, or 0.4 per cent. Combining these results gives an incidence of 1.7 per cent. In three of the author's adult cases the infestation undoubtedly occurred outside the United States. In this series only one case of frank amebic dysentery was encountered and that was in a 5-year-old child. In only four cases were cysts absent from the stools. A comparison of the results of this survey with others made elsewhere indicates that the incidence of *Endamoeba histolytica*



varies from 0.2 to 15.58 per cent. in the different studies. There is no doubt that the incidence varies with the class of patients and the geographic location. One cannot but wonder why, in view of the large number of people harboring this parasite, so few cases of frank amebic dysentery are seen and why there are not more local epidemics like the recent outbreak in Chicago. It has been stated repeatedly that a single fecal examination will reveal only about half the protozoa that can be detected by multiple examinations. This has not been the author's experience. In thirty-three cases of infestation with *Endamoeba histolytica*, the parasite was found in the first specimen in thirty-one cases, in the second in one case and not until the third examination in one case. The fact that the first specimen was collected following a saline cathartic probably explains these results. He found, however, that in some cases subsequent examinations revealed other species of protozoa not found on the first examination.

#### BRONCHIAL ASTHMA AS A COMPLICATION OF PREGNANCY

Bradford Green, Philadelphia (*Journal A. M. A.*, Feb. 3, 1934), submits two histories of patients with bronchial asthma during pregnancy and states that in a patient with true bronchial asthma of anaphylactic origin, the attacks are markedly exacerbated by pregnancy and the outlook can become alarming. In the type of bronchial asthma which is directly related to the sexual cycle, the attacks may appear with each menstrual period, be absent during pregnancy and lactation, and then recur with the reestablishment of the menses. On the other hand, attacks may occur only during pregnancy or even only during pregnancy with one sex and not with the other. The attacks are occasionally associated with a mild toxemia and are relieved when the toxemia is cleared up under conservative treatment. Treatment consists of combating the asthma and disregarding the pregnancy. The termination of pregnancy at best assures only the pregestational state. When the attacks are not accompanied by toxemia but are due specifically to pregnancy, therapeutic abortion might be warranted in extreme crises. Attacks of bronchial asthma are a decided menace to the welfare of the fetus.

#### NUTRITIONAL NIGHT BLINDNESS: REPORT OF CASE

Dwight L. Wilbur and George B. Eusterman, Rochester, Minn. (*Journal A. M. A.*, Feb. 3, 1934), report a case of highly probable nutritional night blindness because of the rarity of such cases occurring in the United States. The relationship of this symptom to deficiency of vitamin A and the retinal pigment visual purple are considered. It is worthy of emphasis that states of nutritional deficiency may arise, as in this case, not as a result of inadequate intake of vitamins or other foodstuff but as a result of gastro-intestinal or other disturbances interfering with either the normal digestion and assimilation of foodstuffs or their metabolic activity.

## Society Proceedings

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

Regular Meeting, Wednesday, March 7, 1934

#### VALUE OF MEDICAL ILLUSTRATION TO THE PRACTITIONER OF MEDICINE

The X-ray. Hollis E. Potter, President, Chicago Roentgen Society.

Historical Aspects of Medical Illustration. W. C. Shepard, Art Department, Rush Medical College.

Modern Medical Illustrating. (Drawing—Photography—Motion Pictures—Exhibits), Tom Jones, Art Department, University of Illinois, School of Medicine.

Discussion—Morris Fishbein, Editor—*Journal, American Medical Association*.

Regular Meeting, Wednesday, March 14, 1934

#### CONTAGIOUS DISEASE IN PRIVATE PRACTICE

Seasonal Aspects and Modes of Transmission of Common Contagious Diseases in Illinois. John J. McShane, Department of Public Health, State of Illinois.

Important Considerations Regarding Contagious Disease in Chicago. Archibald Hoyne, Medical Superintendent, Contagious Disease Hospital.

Discussion. Louis W. Sauer, Clarence Earle.

Regular Meeting, Wednesday, March 21, 1934

#### MILK

Chicago's Supply. Paul Krueger, Asst. Director, Bureau Dairy Products, Chicago Board of Health; A. M. Krahl, Director Public Relations, Pure Milk Association; M. O. Maughn, Executive Secretary, The Milk Council, Inc.; The Chicago Medical Society Milk Commission, R. R. Ferguson, M. D., Secretary.

The Committee on Foods—American Medical Association, Raymond Hertwig, Secretary.

#### IRRADIATED VITAMIN "D" MILK

(Illustrated by lantern slides.) H. L. Russell, Ph. D., Director, Wisconsin Alumni Research Foundation.

Discussion. Isaac Abt, Professor Diseases of Children, Northwestern University Medical School; Paul H. Fesler, President, Chicago Hospital Association.

Regular Meeting, Wednesday, March 28, 1934

#### ORTHOPEDIC CARE OF POLIOMYELITIS

Michael Hoke, Surgeon-in-Chief, Georgia Warm Springs Foundation, Warm Springs, Ga.

Discussion—Edwin W. Ryerson, Philip Lewin.

### RANDOLPH COUNTY

The Randolph County Medical Society met at Sparta, Illinois, March 8, 1934. The Medical Care of C.W.A. employees injured in the line of duty was discussed, and the following committee was selected to work with the County Administrator in formulating a program for this type of care, and to submit a list of all physicians in the County willing to participate in the program.

C. O. Boynton, Chairman, Sparta.

Q. M. Gaines, Chester.

After a general discussion of the Illinois Plan for Giving Necessary Care to Recipients of Unemployment Relief, the program was unanimously approved, and the County Relief Officials were notified in accordance with the ruling of the Illinois Emergency Relief Commission.

The Society also approved the program of the Illinois State Health Department to immunize children against diphtheria.

O. C. Church of Steeleville, was elected Delegate for the 1934 Annual Meeting of the Illinois State Medical Society, and H. B. Dickinson of Coulterville, was elected Alternate.

The next meeting of the Society will be held at Chester on Wednesday, April 4, 1934.

O. C. Church, M.D.  
Secretary.

## Marriages

Fred Carl Endres, Peoria, Ill., to Miss Ida Wheeler of Yates City, recently.

Robert B. Hemphill, Oak Park, Ill.; to Miss Florence Muir of Chicago, February 22.

Earle E. Henson, Princeville, Ill., to Miss Florence Cummings of Peoria, January 17.

Donald Keyes to Miss Elizabeth Laughry, both of Chicago, February 3.

Harry W. Shuman, Rock Island, Ill., to Miss Ruth Lewis of Chisholm, Minn., January 2.

Howard E. Wiley to Miss Edith Katherine Wahlbom, both of Rockford, Ill., January 10.

Samuel Joseph Zakon to Miss Dorothy Gavlin, both of Chicago, March 11.

## Personals

Dr. Charles D. Center, Quincy, President-Elect of the Illinois State Medical Society, died, March 31, from injuries received when struck by an automobile the day before.

The Fulton County Medical Society was addressed at Canton, March 21, by Dr. Robert W. Keeton, Chicago, on diabetes.

Dr. Robert E. Miltenberger has been appointed health officer of Spring Valley, succeeding the late Dr. Frank B. Schurtz.

At a meeting of the Will-Grundy County Medical Society, March 21, Dr. Oscar T. Schults, Evanston, spoke on "Agranulocytosis."

Speakers before the Chicago Pathological So-

ciety, March 12, included Drs. Francis D. Gunn and Walter H. Nadler on "Osteomalacia in the Male."

Dr. James A. Warner, St. Louis, discussed bacterial diseases before the Williamson County Medical Society in Herrin, March 13.

Dr. James C. Stewart has resigned as managing officer of the Alton State Hospital and Dr. Dudley T. Dawson, Danville, has been named to succeed him.

Among others, Dr. Elias Selinger spoke before the Chicago Ophthalmological Society, March 19, on "Studies in Albumin Content of the Aqueous."

Dr. Florimond J. LeBlanc, Elgin, Ill., addressed the McDonagh Society for Clinical Research, March 16, on "Constitution as a Guide in Therapy."

Dr. Lathan A. Crandall, among others, will speak before the Chicago Society of Allergy, March 19, on "Recent Developments in the Migraine Problem."

The Chicago Pediatric Society will be addressed, among others, March 20, by Dr. Robert A. Black on "The Management of the Rheumatic Child."

Dr. Géza de Takats, Chicago, spoke before the Sangamon County Medical Society, March 1, on "Diagnosis and Management of Peripheral Vascular Disease."

The Chicago Urological Society was addressed, March 22, by Drs. Robert H. Herbst and George O. Baumrucker, among others, on a colorimetric test for renal function.

Speakers before the Chicago Society of Internal Medicine, March 26, included Dr. M. Herbert Barker on "Alveolar Oxygen Saturation by Nasal Catheter and Tent Administration."

At a meeting of the McLean County Medical Society in Bloomington, March 14, Dr. Dean Lewis, Baltimore, President, American Medical Association, discussed "Differential Diagnosis of Tumors of the Breast."

The Chicago Council of Medical Women was addressed March 2, by Drs. Alice McNeal and Nora F. B. Brandenburg on "Pentobarbital Anesthesia" and "Bronchoscopy," respectively.

Dr. Carlo S. Senderi, among others, spoke before a joint meeting of the Institute of Traumatic Surgery and the Chicago Roentgen So-



ciety, March 8; his subject was "Ambulatory Treatment of Fractures of the Spine."

Dr. Max Cutler addressed the faculty and students of the University of Illinois College of Medicine, February 28, on "Radium—Its Physical Properties, Biological Aspects and Uses in the Treatment of Cancer."

Dr. Frank A. Stubblefield, for twenty years, superintendent of the Chester State Hospital, Menard, has resigned, and Dr. James M. McManus, Cairo, has been named acting manager to succeed him.

Speakers before the Adams County Medical Society at Quincy, March 12, were Drs. Philip H. Kreuscher, Chicago, and Nathaniel G. Alcock, Iowa City, on "Backache" and "Prostatic Resection," respectively.

Dr. Stephen Walter Ranson delivered the annual Samuel A. Mathews lecture, March 9, at Loyola University School of Medicine. His subject was "Cutaneous Sensation." The lecture is under the auspices of the Phi Beta Pi fraternity.

Dr. Ko K. Chen, director of pharmacologic research, Lilly Research Laboratories, Indianapolis, addressed the Peoria City Medical Society, March 6, on "Development of Ephedrine." "Newer Antidotes for Strychnine and Cyanide Poisoning" and "Toad Poisons."

The St. Clair County Medical Society was addressed in East St. Louis, March 1, by Dr. Charles H. Neilson, St. Louis, on "The Weather, Its Influence on Health and Disease," and in Belleville, March 7, by Dr. Cleaves Bennett, Champaign, on "Care of Indigent Sick as Done by Adams, Champaign, Cole and Macon County Medical Societies."

Friends of Dr. Charles H. Starkel, Belleville, gave a dinner in his honor, February 14, at the University Club in St. Louis, to observe his completion of fifty years in the practice of medicine. Dr. Starkel, who is 72 years old, graduated from Rush Medical College in 1884. He was health commissioner of Belleville for many years.

Dr. M. L. Folk, among others, read a paper before the Chicago Ophthalmological Society, Monday evening, March 19. His subject was "Histopathology of Coloboma of the Choroid and the Optic Nerve Entrance."

Dr. H. K. Scatliff addressed a group in Nichols School, Evanston, March 9, on "Parent and Child Relationship." The lecture was part of the program outlined by the Evanston Advisory Council on Adult Education.

Judge James J. Kelly of the Superior Court on February 20, 1934, entered a judgment of mandamus directing Mr. Brandon, Mr. Lancaster (Civil Service Commission) Dr. Harry J. Gradle et al; to restore Dr. Ulysses J. Grim to his position as ear surgeon at the Illinois Eye and Ear Infirmary. This relates to a long-drawn out court proceeding contesting the removal of Dr. Grim and other Eye and Ear surgeons in violation of the Civil Service laws of the State of Illinois.

---

## News Notes

---

One hundred and seventeen cases of amebiasis were reported in Illinois during the first seven weeks of 1934, according to the state health department.

Speakers before the Madison County Medical Society in Highland, March 2, were Drs. Duff S. Allen and Julius Jensen, St. Louis, on "Thyroidectomy in Decompensated Heart Disease" and "The Thyroid as the Regulator of the Circulatory System," respectively.

At a meeting of the Chicago Surgical Society, March 2, the speakers included Drs. James K. Stack on "Prognosis in Fractures of the Carpal Scaphoid," and John L. Yates and Silvanus A. Morton, Milwaukee, on "Operative Correction of Diaphragmatic Hernia; Postoperative Care of the Patient."

Speakers before the Chicago Laryngological and Otological Society, March 5, were members of Northwestern University Medical School; among others, Drs. John F. Delph and Max T. Lampert spoke on "Endoscopic Experience" and "Combined Laryngofissure for Cancer of the Larynx," respectively.

Speakers before the Chicago Neurological Society, March 15, were Drs. Charles N. Pease, on "Injuries to the Vertebrae and Intervertebral Disks Following Lumbar Punctures"; Harry A. Paskind, "Parosmia in Tumorous Involvement of the Olfactory Bulbs," and Paul M. Levin, "Neurological Symptoms of Uveoparotid Fever."

Dr. Samuel C. Harvey, professor of surgery, Yale University School of Medicine, New Haven, delivered the tenth Lewis Linn McArthur Lecture of the Frank Billings Foundation of the Institute of Medicine, March 23, at the Chicago Woman's Club. His subject was "Reaction to Injury as a Function of Growth."

Schuyler County reported no deaths from tuberculosis for 1933, according to the state department of health. Low figures for other sections of the state suggest a continued improvement in the death rate for tuberculosis, although other evidence indicates a definite increase in prevalence. The tuberculosis death rate in 1933 was the lowest on record for Illinois.

At a meeting of the Chicago Orthopedic Club, March 9, Dr. Stanton K. Livingston, among others, spoke on "Bony Changes Due to Parathyroid Disease." Speakers at the meeting of the club, February 16, included Drs. Jerome T. Jerome on "Tuberculous Spines in Young Children" and Cly H. Hatcher, "Longitudinal Growth of Bone and Rate of Growth from Various Epiphyses."

A mortality rate of 10.5 per thousand population was reached for the state in 1933, according to final provisional figures from the state department of health. This is a slight decrease over the rate for the previous year, 10.7. The infant mortality rate for the year was 50.6 deaths per thousand births as compared with 52 per thousand in 1932. With 104,587 births for the year, the rate was 13.4 per thousand as against 14.4 in 1932. The maternal mortality rate was 5.4 deaths as compared with 5.2 in 1932. This is attributed to the unusually low birth rate rather than to the greater loss of mothers. New low figures were also attained for diphtheria with 134 deaths; typhoid, 111, and tuberculosis, 4,173.

## Deaths

ANTON BIANKINI, Chicago; University of Vienna Faculty of Medicine, Wien, 1888; a Fellow, A. M. A.; aged 73, died, February 8, of gastric ulcer.

JEREMIAH EDWARD BLACK, Chicago; Bennett Medical College, Chicago, 1913; aged 49; died, February 15, of pneumonia.

ENOCH A. BURWELL, Nokomis, Ill.; Missouri Medical College, St. Louis, 1884; formerly bank president and president of the school board; aged 77; died, January 27, of cerebral hemorrhage.

OLON WILLIAM CAMERON, Chicago; Rush Medical College, Chicago, 1928; aged 39; died, February 15, of angina pectoris and coronary occlusion.

MARTIN C. CARR, Duquoin, Ill.; Missouri Medical College, St. Louis, 1876; aged 83; died, February 15, of organic heart disease.

JAMES A. CROW, Round Knob, Ill.; St. Louis College of Physicians and Surgeons, 1892; member of the Illinois State Medical Society; aged 71; died, February 8.

ALBERT MARION EARLE, Hoopeston, Ill.; Rush Medical College, Chicago, 1891; a Fellow, A. M. A.; member of the American Academy of Ophthalmology and Oto-Laryngology; aged 67; died, February 25, in the Lake View Hospital, Danville, of a basal skull fracture received when he fell through an elevator shaft.

JOHN CARROL ETHERTON, Chicago; St. Louis College of Physicians and Surgeons, 1894; aged 77; died, January 29, of carcinoma of the prostate and chronic myocarditis.

WALTER KARL HOOVER, Lovington, Ill.; Rush Medical College, Chicago, 1888; aged 77; died, January 15, in the Peoria (Ill.) State Hospital, of pulmonary abscess.

THOMAS FRANK LIDDY, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1889; aged 70; died, January 11, in Ocala, Fla., of uremia.

LEROY NEWLIN, Robinson, Ill.; University of Kentucky School of Medicine, Louisville, 1891; aged 74; died, February 16, of chronic myocarditis and chronic hepatitis.

WILMONT L. RANSOM, Rockford, Ill.; Northwestern University Medical School, 1874; the oldest living graduate of that school, aged 81; died, March 12, of lobar pneumonia.

MAURICE H. ROSENBERG, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1894; aged 62; died, February 28, in the Michael Reese Hospital.

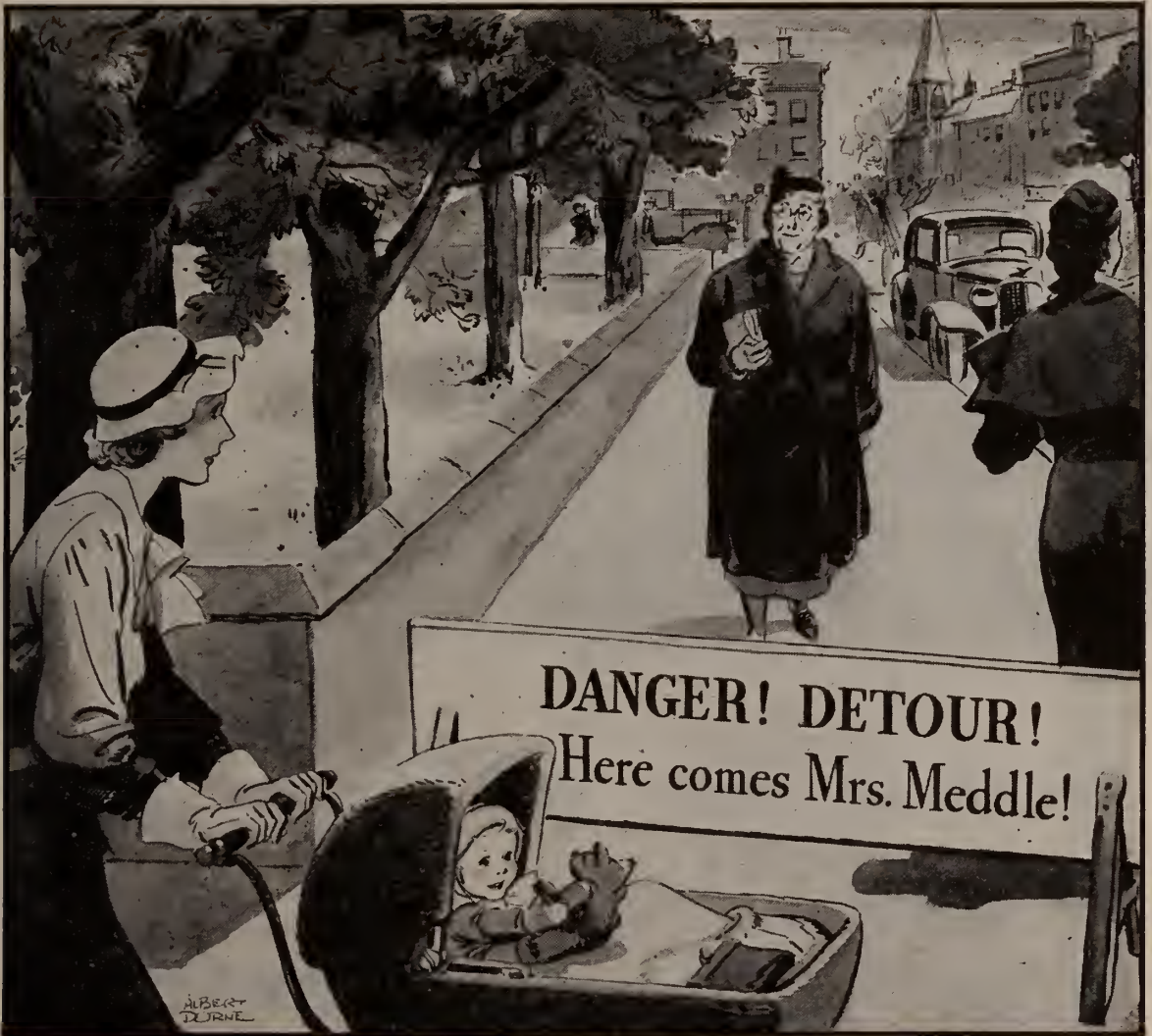
FRANK BARTON SCHURTZ, Spring Valley, Ill.; University of Michigan Medical School, Ann Arbor, 1885; for many years president of the board of health of Spring Valley; aged 68; died, January 24, of cerebral hemorrhage.

ALBERT RUFUS SHELDON, Highland Park, Ill.; Hahnemann Medical College and Hospital, Chicago, 1902; a Fellow, A. M. A.; member of the Radiological Society of North America; on the staff of the Highland Park Hospital; aged 56; died, February 6, of heart disease.

BENJAMIN FRANKLIN TUBERGEN, Chicago; Chicago College of Medicine and Surgery, 1916; a Fellow, A. M. A.; aged 52; died, February 18, of myocarditis.

VIRGIL MARTHA GILCHRIST WHEELER, Urbana, Ill.; University of Illinois College of Medicine, Chicago, 1917; served with the American Red Cross in France during the World War; medical adviser to women, University Health Station, and associate in hygiene, University of Illinois; aged 45; died, January 3, at her home in Monticello.





**A**ROUND every turn of the road, amateur medical advice lies in wait for the young mother. Neighbors . . . loving friends . . . relatives who long to be helpful . . . there are dozens of lay advisors whose counsels no physician could ever approve.

And—bad luck for babies—these advisors are happiest when they're holding forth on the all-important topic of infant feeding.

A baby's best defense against these well-meaning meddlers is—his doctor's explicit formula. If that formula calls for evaporated milk, it's well worth while, for safety's sake, to specify the brand. You know that certain brands of evaporated milk measure up to your high standards, and that Borden's assuredly will do so. One word—"Borden's"—in your formula will make sure that your judgment, and not Mrs. Meddle's, prevails.

Borden's Evaporated Milk fulfills the strictest medical requirements for infant feeding. It is always wholesome, fresh and pure. Beginning with the selection of the raw milk, every step in its preparation is rigidly supervised under competent laboratory control.

May we send you a simple, compact infant feeding formulary and other strictly professional material which, we believe, you will also find interesting and valuable? Address The Borden Company, Dept. IL 44, 350 Madison Avenue, New York, N. Y.



Borden's Evaporated Milk was the first evaporated milk for infant feeding to be submitted to the American Medical Association Committee on Foods, and the first to receive the seal of acceptance. No formulas are given to the laity.





## Many uses for this delicious high- caloric food-drink...

TO THE convalescent—to the expectant or nursing mother—to the active, growing child a Cocomalt milk beverage is a delicious change from the monotony of plain milk.

When vitality is at low ebb and appetite lacking—Cocomalt mixed with milk is suggested as a valuable adjunct to the diet.

Accepted by the American Medical Association Committee on Foods—licensed by the Wisconsin University Alumni Research Foundation—Cocomalt is easily digested, quickly assimilated, *high in caloric value*. It provides *extra* proteins, carbohydrates and minerals (calcium and phosphorus)—plus Vitamin D for proper utilization of these essential minerals.

Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Vitamin D. Prepared as directed, it adds 70% more food energy to a cup or glass of milk.

Cocomalt comes in powder form only, easy to mix with milk—delicious HOT or COLD. At grocery and good drug stores in ½-lb. and 1-lb. air-tight cans. Also in 5-lb. cans for hospital use, at a special price.



### FREE TO PHYSICIANS

We will be glad to send a trial-size can of Cocomalt free to any physician requesting it. Just mail this coupon with your name and address.

R. B. DAVIS Co.,  
Dept. 72D, Hoboken, N. J.  
Please send me a trial-size can of Cocomalt without charge.

Dr. ....

Address .....

City..... State.....



## WE SUPPLY OUT-OF-PRINT AND "HARD-TO-GET" BOOKS on EVERY PHASE of MEDICINE

in any language and books on all other subjects. We make a thorough search for the book you want through our world-wide system and report items to you at lowest prices.

*No charge or obligation whatsoever for this service. Send us your book-want list today.*

We also supply back numbers of magazines, pamphlets, periodicals of all kinds, domestic and foreign. We specialize in medical magazines in all languages.

*Standard and latest books on all aspects of sexology for general and limited circulation. Send for list.*

**\*\*Genealogies, family and town histories a specialty. Family records traced by experts. Individual Bookplates Designed**

**WE ALSO BUY BOOKS OF ALL KINDS** single volumes, sets, libraries, magazines. Autographs and manuscripts, literary and historical purchased. Send us for your list of items for sale for our offers.

**CURRENT BOOKS OF ALL PUBLISHERS ON EVERY SUBJECT**

supplied as soon as published at regular bookstore prices—**postfree**. Send us your orders. Monthly catalogue of new books—**FREE ON REQUEST**.

*Correspondence invited on all book matters.*

**AMERICAN LIBRARY SERVICE**

1472 Broadway Dept. 146 New York City

Trademark  
Registered

# STORM

Trademark  
Registered

## Binder and Abdominal Supporter



Gives perfect uplift. Is worn with comfort and satisfaction. Made of Cotton, Linen or Silk, Washable as underwear. Three distinct types, many variations of each.

### The Picture Shows "Type N"

Storm belts adaptable to all conditions, Ptosis, Hernia, Pregnancy, Obesity, Sacro-Iliac Relaxations, High and Low Operations, etc.

Ask for Literature

**KATHERINE L. STORM, M.D.**

Originator, Owner and Maker

1701 Diamond St.

Philadelphia



# ST. JOSEPH'S HEALTH RESORT

*Located on the  
beautiful Fox River*

**WEDRON • ILLINOIS**

*"The"  
Illinois Baden*

*73 Miles from Chicago*



Thoroughly equipped Health Resort. Every modern convenience. — Hydro-Therapy — Electro-Therapy — Massage — Dietetics. Treatments for Rheumatism, High Blood Pressure — Neuritis — Kidney Troubles — Liver Ailments — Diabetes — Nervousness.

Ideal for convalescents—and vacationists—home like environments—excellent cuisine—registered nurses—moderate rates—40 acres of ground.

Conducted by Sisters, Mission Workers of the Sacred Heart.

*Write or phone for full  
information*

TELEPHONE: OTTAWA 9129

## CONSULTING STAFF

FREDERICK TICE, Chicago—Medical  
PHILIP H. KREUSCHER, Chicago—Surgical  
FRANCIS J. GERTY, Chicago—Neuropsychiatrist  
JAMES H. HUTTON, Chicago—Endocrinology

## ATTENDING STAFF

GEORGE KLUMPNER, Ottawa—Medical  
JOHN H. EDGEComb, Ottawa—Surgical  
W. P. FREAD, Ottawa—Eye, Ear, Nose & Throat  
F. L. HOXEY, Ottawa—Dental

# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director; Alberto L. de Guevara, M. D., Asso. Medical Director

**Naperville, Illinois**

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis. Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

# The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago



Do you know that you can administer larger doses (20 to 40 grains four or five times per day) of Hexamethylenamine without irritation—when you prescribe

**Non-Toxic ♦♦♦ Non-Alcoholic**

# UROLITHIA

Urolithia serves as an agent for liberating formaldehyde and avoids the highly irritating qualities of free formaldehyde.



UROLITHIA is a scientific compounded formula of Methenamine in combination with Lithium and Sodium Benzoate in a Standardized fluid of couch grass (*Triticum*) and corn silk (*Zea*.)

*Clinical sample and literature free on request.*

**COBBE**

PHARMACEUTICAL COMPANY  
221 North Lincoln St. Chicago, Ill.

COBBE PHARMACEUTICAL CO.,  
221 N. LINCOLN ST., CHICAGO, ILL.

Send free Urolithia sample and literature.

DR. ....

.....

.....

.....

IM4-34

## PROFESSIONAL PROTECTION

SINCE 1899  
SPECIALIZED  
SERVICE

TEN YEARS AGO

A claim or suit with every mail

TODAY

Four claims or suits with every mail

THE

**MEDICAL PROTECTIVE COMPANY**

OF FORT WAYNE, INDIANA

WHEATON, ILLINOIS



## Cut Out This Page and Post Conspicuously

### BUYERS INDEX

#### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 18

#### BOOKS

American Library Service, New York City.. .... 18

#### FOODS

Biovegetin Products, Inc., 500 N. Dearborn St., Chicago.... 10  
Borden Co., New York City..... 17  
R. B. Davis Co., Hoboken, N. J..... 18  
Lister Bros., 41 E. 42nd St., New York City..... 22  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass.....  
The Wander Company, 180 N. Michigan Ave., Chicago... 14

#### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 20

#### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 27  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago ..... 22

#### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill.....  
Armour & Co., Chicago..... 7  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford.....  
Ciba Company, Cedar & Washington Sts., New York City 31  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago.... 20  
Denver Chemical Co..... 28  
Emerson Drug Co., Baltimore..... 13

Harrower Laboratory, 160 N. La Salle St., Chicago.... 23  
Adolphe Hurst & Co., Inc., 330 W. 42nd St., New York City 22  
Hynson, Westcott & Dunning, Charles and Chase Sts., Baltimore ..... 8  
Lilly, Eli & Co., Indianapolis, Ind..... 16  
Merck and Co., Rahway, N. J.....  
Metz Laboratories, Inc., New York.....  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 22  
Reed & Carnrick, Jersey City, N. J..... 12  
Schering and Glatz, Inc., New York City.....  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit.....  
Wm. R. Warner & Co., 113 W. 18th St., New York City.. 15  
Winthrop Chemical Co., 117 Judson St., New York City..  
John Wyeth & Bro., Inc., Philadelphia..... 4

#### SANATORIA AND SANITARIA

Edward Sanatorium, Naperville, Ill..... 19  
Kenilworth Sanitarium, Kenilworth, Ill..... 29  
Michell Farm Sanitarium, Peoria, Ill..... 32  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 29  
North Shore Health Resort, Winnetka, Ill..... 32  
Oconomowoc Health Resort, Oconomowoc, Wis..... 32  
Phoenix Chamber of Commerce, Phoenix, Ariz..... 27  
St. Joseph's Health Resort, Wedron, Ill..... 19  
Waukesha Springs Sanitarium, Waukesha, Wis..... 29  
Wilgus Sanitarium, Rockford, Ill..... 29

#### SCHOOLS

Bancroft School, Haddonfield, N. J..... 22

#### SURGICAL SUPPLIES

Johnson & Johnson, New Brunswick, N. J..... 8

. . . . SAFEGUARD YOUR PATIENT

## » Metaphyllin «

(Aminophyllin N.N.R.)

For Angina Pectoris, Coronary Thrombosis, and other painful heart conditions.

COUNCIL ACCEPTED

Byk, Inc.



New York

Obtainable through

ADOLPHE HURST & CO., INC., 330 West 42nd St., New York, N. Y.



### The Efficacy of

## TAUROCOL (TOROCOL) TABLETS

is emphasized in bile salts therapy in the reduced dosage necessary as the bile increases.

TAUROCOL is a combination of bile salts, extracts of cascara sagrada, phenolphthalein and aromatics and is an agent recognized by the medical profession and widely prescribed for more than a quarter of a century.

IF you are now prescribing TAUROCOL you know its efficacy in increasing bile flow. If you are not prescribing TAUROCOL will you please make a clinical test of TAUROCOL? Samples sent on request.

THE PAUL PLESSNER CO.  
DETROIT MICH.



VERA PERLES  
of Sandalwood  
Compound . . .  
another Plessner  
product.

IM4-34

## Cook County Graduate School of Medicine

(In affiliation with COOK COUNTY HOSPITAL)  
ANNOUNCES CONTINUOUS COURSES

**MEDICINE**—General and Intensive Courses, all branches. (Two Weeks Intensive Course starting April 23rd. Attendance Limited.)

**PEDIATRICS**—Informal Course—(Four Weeks Intensive Course starting May 7th. Attendance Limited.)

**EAR, NOSE & THROAT**—Informal Course—Special Courses—(Two Weeks Intensive Course starting April 23rd. Attendance Limited.)

**SURGERY**—General Course One, Two, Three and Six Months; Surgical Technique Two Weeks Intensive Course—Special Courses.

**GYNECOLOGY**—Three Months Course—Two Weeks Course—Special Courses.

**OBSTETRICS**—Informal Course—Two Weeks Intensive Course.

**FRACTURES & TRAUMATIC SURGERY**—Informal Course—(Intensive Course starting June 18th).

**UROLOGY**—General Course Two Months, Intensive Course Two Weeks—Special Course.

**CYSTOSCOPY**—Intensive Course. Attendance Limited. General, Intensive and Special Courses in Tuberculosis, Ophthalmology, Roentgenology, Pathology, Neurology, Proctology, Electrocardiography, Topographical and Surgical Anatomy, Physical Therapy, Gastroenterology, Allergy.

TEACHING FACULTY, Attending Staff of  
COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street  
Chicago, Illinois

## LISTER'S

CASEIN PALMNUIT DIETETIC

## FLOUR

**No  
Starch**

prescribed in

→ Diabetes ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Listers Flour. Recipes are easy to follow and Listers Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a  
suitable environment

## The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey





CONVALESCENCE

NEURASTHENIA

HYPOTENSION

ASTHENIA

Prescribe:

**ADRENO-SPERMIN**

1 Sanitable q. i. d.

The HARROWER LABORATORY, Inc.

GLENDAL, CALIF.  
920 E. Broadway

NEW YORK, N. Y.  
9 Park Place

CHICAGO, ILL.  
160 N. La Salle St.

DALLAS, TEX.  
833 Allen Bldg.

PORTLAND, ORE., 316 Pittock Block

# ILLINOIS STATE MEDICAL SOCIETY

## OFFICERS OF SECTIONS ILLINOIS STATE MEDICAL SOCIETY, 1933-1934

**SECTION ON MEDICINE**  
R. F. Herndon, Chairman, Springfield  
Don C. Sutton, Secretary, Chicago.

**SECTION ON SURGERY**  
George W. Post, Chairman, Chicago.  
B. V. McClanahan, Secretary, Galesburg.

**SECTION ON EYE, EAR, NOSE AND THROAT**  
Geo. S. Duntley, Chairman, Macomb.  
O. B. Nugent, Secretary, Chicago.

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
J. H. Beard, Chairman, Urbana.  
Lloyd Arnold, Secretary, Chicago.

**SECTION ON RADIOLOGY**  
Robert F. Arens, Chairman, Chicago.  
F. Flynn, Secretary, Decatur.

**SECRETARIES' CONFERENCE**  
H. A. Felts, President, Marion.  
Elizabeth R. Miner, Vice-President, Macomb.  
C. D. Snively, Secretary, Ipava.

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

County	President	Secretary
Adams	R. A. Harris, Quincy	Walter Stevenson, Quincy.
Alexander	R. E. Barrows, Cairo	J. S. Johnson, Cairo.
Bond	W. C. Dixon, Greenville	Wm. T. Easley, Greenville.
Boone	M. L. Hartman, Belvidere	E. F. Dettmann, Belvidere.
Brown	John G. Ash, Mt. Sterling	C. B. Dearborn, Mt. Sterling.
Bureau	R. Herrick, Wyandot	C. R. Bates, Depue.
Calhoun	No Society.	
Carroll	W. J. Scholes, Lanark	H. R. Sword, Milledgeville.
Cass	D. E. Haworth, Beardstown	W. W. Holland, Beardstown.
Champaign	W. M. Honn, Champaign	W. F. Lamkin, Champaign.
Christian	W. S. Miller, Assumption	Perry E. Duncan, Taylorville.
Clark	H. G. Anderson, Westfield	H. C. Houser, Westfield.
Clay	C. Henderson, Clay City	H. D. Fehrenbacher, Flora.
Clinton	H. B. Warren, Breese	W. S. Carter, Trenton.
Coles-Cumberland	J. A. Oliver, Charleston	E. E. Richardson, Mattoon.
Cook	Austin A. Hayden, Chicago	Thomas P. Foley, Chicago.
Crawford	T. N. Rafferty, Robinson	J. W. Long, Robinson.
De Kalb	James C. Ellis, De Kalb	C. E. Smith, De Kalb.
De Witt	C. S. Bogardus, Clinton	Wm. R. Marshall, Clinton.
Douglas	J. O. Cletcher, Tuscola	George H. Fuller, Tuscola.
Du Page	Harry W. Kinne, West Chicago	A. R. Rikli, Naperville.
Edgar	E. O. Laughlin, Paris	George H. Hunt, Paris.
Edwards	W. E. Buxton, West Salem	A. J. Boston, Albion.
Effingham	F. M. Phillips, Farina	T. F. Reuther, Effingham.
Fayette	A. R. Whitefort, St. Elmo	G. A. Stanberry, Vandalia.
Ford	L. C. Ditty, Piper City	I. D. Kelsheimer, Paxton.
Franklin	J. J. Ellis, W. Frankfort	W. H. Smith, Benton.
Fulton	G. L. Stoehr, London Mills	C. D. Snively, Ipava.
Gallatin	J. A. Womack, Equality	J. C. Murphy, Ridgeway.
Greene	E. E. Jouett, Carrollton	W. H. Garrison, White Hall.
Hancock	D. F. Scott, Carthage	W. P. Frazier, Carthage.
Hardin	J. R. De Velling	J. L. Paris, Elizabethtown.
Henderson	C. J. Eads, Oquawka	M. J. Babcock, Biggsboro.
Henry	R. H. Stewart, Galva	P. J. McDermott, Kewanee.
Iroquois	Myrtle Swemmer, Watseka	W. F. Buckner, Watseka.
Jackson	B. F. Crain, Carbondale	Edward K. Ellis, Murphysboro.
Jasper	W. A. Jack, Newton	G. C. Brown, St. Marie.
Jefferson Hamilton	T. A. Clark, Mt. Vernon	Andy Hall, Mt. Vernon.
Jersey	H. R. Bohannon, Jerseyville	B. M. Brewster, Fieldon.
Jo Daviess	W. S. Lewis, E. Dubuque	R. E. Logan, Galena.
Johnson	Wm. Thompson, Cypress	G. K. Farris, Vienna.
Kane	R. H. Graham, Aurora	K. M. Manougian, Elgin.
Kankakee	G. H. Ayling, Kankakee	J. H. Gamet, Momence.
Kendall	No Society.	
Knox	C. G. Johnson, Galesburg	L. N. Tate, Galesburg.
Lake	G. Q. Grady, Highland Park	W. L. Winters, Highland Park.
La Salle	E. H. Rayson, Earlville	Roswell T. Pettit, Ottawa.
Lawrence	Wm. R. Mangum, Bridgeport	R. L. Gordon, Lawrenceville.
Lee	W. T. Holladay, Amboy	K. B. Segner, Dixon.
Livingston	E. F. Law, Fairbury	H. L. Parkhill, Pontiac.
Logan	F. M. Hagans, Lincoln	H. Bradburn, Lincoln.
McDonough	Henry Hermetet, Macomb	Elizabeth R. Miner, Macomb.
McHenry	J. G. Maxon, Harvard	F. L. Alford, Crystal Lake.
McLean	J. C. McNutt, Bloomington	Ralph P. Peairs, Normal.
Macon	D. D. Smith, Decatur	D. A. Pence, Decatur.
Macoupin	A. H. Hunter, Staunton	T. D. Doan, Palmyra.
Madison	N. C. Baumann, Highland	D. D. Monroe, Edwardsville.
Marion	H. E. Schoonover, Salem	H. O. Williams, Centralia.
Mason	W. A. Steele, Havana	W. H. Schuette, Mason City.
Massac	J. H. Gann, Brookport	M. H. Trovillion, Metropolis.
Menard	Irving Newcomer, Petersburg	R. F. Valentine, Tallula.
Mercer	Walter Miles, Viola	V. A. McClanahan, Aledo.
Monroe	E. T. Lark, Columbia	R. G. Empson, Valmeyer.
Montgomery	H. C. Turney, Coffeen	H. F. Bennett, Litchfield.
Morgan	A. J. Adams, Jacksonville	Fred Engelback, Jacksonville.
Moultrie	W. Williamson, Sullivan	W. B. Kilton, Sullivan.
Ogle	R. O. Brown, Mt. Morris	A. R. Bogue, Rochelle.
Peoria City Medical Society	A. P. Kannapel, Peoria	C. W. Margaret, Peoria.

(Continued on page 31)



ILLINOIS PERIODIC PHYSICAL EXAMINATION RECORD\*

Case No. ....

Name ..... Age ..... Height ..... Weight ..... usual ..... present ..... normal .....

Temp. (3 min.) ..... Pulse Rate { Seated (before exercise) ..... Standing (before exercise) ..... 60 sec. after exercise (sufficient to increase pulse to 110) .....

Bl. Pres.: Sitting { Sys. .... Dias. .... Lying { Sys. .... Dias. ....

Hearing { R. .... L. .... Vision { R. .... L. ....

Urine: Color ..... Reaction ..... Sp. Gr. .... Alb. .... Sugar ..... Microscopic .....

1. (Standing)

- (1) Posture: erect ..... stooped ..... Lateral curvature .....
- (2) Superficial glands ..... cervical ..... axillary ..... inguinal ..... epitrochlear .....
- (3) Abdomen: flat ..... Pendulus .....
- (4) Arms ..... defects .....
- (5) Legs ..... big veins ..... scars .....
- (6) Feet: flat ..... painful ..... deformed .....
- (7) Skin ..... Hands .....
- (8) Nutrition ..... Hernial rings .....
- (9) Chest: expir. .... inspir. .... Romberg .....

2. (Sitting)

- (1) Scalp ..... Patellar reflexes .....
- (2) Eye reflexes ..... to light ..... to distance .....
- (3) Nose: conformation ..... air passages free ..... obstructed ..... discharge .....
- (4) Teeth: caries ..... devitalized ..... crowned .....
- (5) Gums: healthy ..... retracted ..... inflamed .....
- (6) Tongue: clean ..... coated ..... moist ..... dry .....
- (7) Pharynx: ulcers ..... scars ..... tonsils .....
- (8) Ears: conformation ..... discharge .....
- (9) Heart: locate apex (measure from mid-line—state interspaces) ..... character of sounds .....
- (10) Lungs: abnormal findings .....

3. (Lying)

- (1) Abdomen: palpation ..... tender ..... tumors .....
- (2) Liver: percussion ..... tender ..... palpable .....
- (3) Spleen: percussion ..... tender ..... palpable .....
- (4) Kidneys: palpable ..... tender .....
- (5) Rectum: inspection ..... digital findings .....
- (6) Male Genitalia .....
- (7) Female Genitalia and pelvis .....

4. Summary: defects of function and structure and errors of habit .....
5. Advice given to the patient .....

\*Prepared by the Illinois State Medical Society.

Copies of this physical examination record may be secured from Doctor Harold M. Camp at Monmouth, Illinois, or the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

HISTORY

(This side to be filled in by the person to be examined)

- 1. Name ..... Country of birth.....Date of birth.....
- 2. Address .....Race .....
- 3. Single, married, widowed, divorced.....
- 4. Occupation .....
- 5. How often have you changed your work?.....Why? .....
- 6. Is your work dangerous or unhealthy?.....
- 7. Is it indoors or out?.....
- 8. Is it light where you work?.....Dark?.....Dusty? .....Smelly?....Noisy?....Crowded?....
- 9. At work are you usually seated, standing, or walking? .....
- 10. How many hours a day do you work?.....How many days a week?.....
- 11. Have you a room and bed to yourself?.....With window open?.....
- 12. What are your hours of sleep?.....Is your sleep restful?.....By what is it disturbed? .....
- 13. Where do you eat your meals?.....
- 14. How much time do you take for each meal?.....
- 15. Of what foods are you especially fond?.....
- 16. How much do you drink daily of:  
    Water .....Tea .....Soft drinks .....  
    Milk .....Coffee.....Alcoholic drinks .....
- 17. Do you eat candy?.....
- 18. Do you have a bowel movement daily without the use of drugs?.....What laxative do you use?.....How often? .....Do you have pain or bleeding with bowel movement?.....How often? .....
- 19. Have your menstrual periods been regular?.....
- 20. Have they interfered with your usual occupations? .....
- 21. Have pregnancies and confinements been free from accidents? .....
- 22. How often do you bathe?.....
- 23. What regular exercises do you take in addition to your work?.....
- 24. Do you share in church, social, political, club, or trade associations?.....
- 25. What are your pleasures or recreations?.....
- 26. Have you had any of the following diseases and at what ages?  
    Tuberculosis .....Scarlet fever .....Tonsilitis .....  
    Malaria .....Diphtheria.....Frequent colds.....  
    Rheumatism .....Typhoid fever .....Syphilis or gonorrhea.....
- 27. Do you have dyspepsia?.....
- 28. Do you have headaches?.....
- 29. Are you short of breath on going up stairs?.....
- 30. Do you catch cold easily and often?.....
- 31. Are you subject to sore throats?.....
- 32. Have you been vaccinated against small pox, typhoid fever, diphtheria?.....When? .....
- 33. Have you had any accidents, broken bones or surgical operations? .....
- 34. How often do you consult you dentist?.....
- 35. Are you as well at present as formerly?.....If not, why?.....
- 36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....  
.....  
.....  
.....



# ARIZONA

84%  
Sunshine

*It's "June-time"  
In this dry, warm "Land of Sunshine"*

*— and the altitude is ideal!*

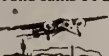
Having a climate which is unsurpassed, Phoenix and the nearby towns of Mesa, Tempe, Chandler, Wickenburg, Glendale and Buckeye, offer the opportunity to live a healthful outdoor life. Warm sunshine floods this area 84% of all the possible daylight hours; winters are moderate; the clean, dry air is bracing and refreshing; the altitude of 1100 feet is ideal.

Consider Phoenix for your patients who need to recuperate physically and mentally. Consider the well-managed sanatoria and hospitals, competent medical supervision, comfortable living accommodations to meet every budget, fresh fruits and vegetables the year around—which are all to be found here in this friendly Valley of Sunshine.



Send us the schedule of those persons you are sending to Phoenix. We will be glad to meet their train or plane and help them locate in comfortable accommodations to fit their budget.

  
Reduced round-trip rates now in effect on the Rock Island-Southern Pacific and Santa Fe Lines.

  
Daily trans-continental plane service via Fair Weather Route of the American Airways, Inc.

## Climatological Data

U. S. Weather Bureau Statistics  
Covering a period of 36 years

Mean Yearly Average

Temperature	69.8°
Rainfall	7.81 inches
Relative Humidity	37.33%
Sunshine	84%
Altitude	1,100 feet

## PHOENIX CHAMBER OF COMMERCE

119 F La Ciudad Del Sol  
(The City of the Sun)

Please send me free descriptive literature and further information about the climate.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
**CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL**  
231 West Washington Street, Chicago, Illinois

### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six  
X-ray, Basal Metabolism, Electrocardiography  
and Physical Therapy

### ALCOHOLISM (30 YRS. EXPERIENCE)

THE STOKES HOSPITAL—923 Cherokee Road, Louisville, Ky. East 1488. \$150.00 up for 4 weeks' treatment. Absolute privacy. Treatment one of Gradual Reduction. Do not limit the quantity of whiskey used in treatment. Each patient treated as an individual case. Craving for whiskey destroyed, no physical injury incurred.

### VESICOVAGINAL FISTULAS TREATED BY ELECTROCOAGULATION

Two cases of vesicovaginal fistula, following operations for removal of uterine fibroids, were successfully treated by electrocoagulation, applied from the bladder side through the cystoscope, and also from the vaginal side. In the literature the author finds only 2 other cases of vesicovaginal fistula reported as cured by electrocoagulation. One of the author's cases required 6 applications of the current.—Dr. A. Peterson, of Los Angeles, in *Am. J. Surg.*, Aug., 1932.

### BE HONEST WITH NATURE

So, very, very slowly, with many a slip and stumble, and many a scar to show for early errors, mankind has reached the point where Nature is no longer a thing to fear, no longer a thing to fight, no longer a thing to conquer even, as a rebellious slave; but rather a bountiful mother, to be studied, understood, cooperated with—blood of our blood, bone of our bone, literally as well as metaphorically—and harmful to us only when we fail to understand, or venture rashly into foolish feats.—H. W. Hill, in *California Public Health Bulletin*.

### JUST A MATTER OF DOUBT

*Overheard by C. P. M. in a Louisiana office*

Doctor: Have you ever had a miscarriage?

Patient: Yes sir, Doctor, I've had three miscarriages and one misconception.

# Rheumatism—

both articular and non-articular—is helpfully treated with packs of Antiphlogistine, because of the prolonged moist heat which they supply and because of their analgesic and anodyne qualities.

The application of heat to a part and the induction of hyperaemia, tend to improve the general metabolism, promote absorption of the swellings in and around the joints and muscular fibres, and to reduce the thickness of the synovial sacs, so that morbid articulations assume a more normal shape.

*Sample  
and  
literature  
on request*

Antiphlogistine is a valuable adjuvant in the treatment of rheumatic conditions, where the application and maintenance of moist heat is so helpful.

THE DENVER CHEMICAL MFG. CO.  
163 Varick Street, New York, N. Y.

**ANTIPHLOGISTINE**  
*for Pain and Inflammation*



## Kenilworth Sanitarium

KENILWORTH, ILLINOIS

Northern Suburb of Chicago

Founded by Sanger Brown, M. D. 1905

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M.D.      CHRISTY BROWN  
Assistant Physician      Business Manager  
PETER BASOE, M.D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

For Mild Mental and Nervous Diseases

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

Licensed by the Illinois State Department of Public Welfare.

Member of the Central Neuropsychiatric Hospital Association.

Rockford, Illinois

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director  
FLOYD W. APLIN, M. D.

Waukesha, Wisconsin

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

For the Treatment of Nervous and Mental Disorders

DR. FRANK P. NORBURY, Medical Director  
DR. ALBERT H. DOLLEA, Superintendent  
DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK

Address  
Communications

THE NORBURY SANATORIUM, Jacksonville, Illinois

## SPEECH DIFFICULTIES

(Continued from Page 6)

of an older boy. He is expected to get high grades in his school subjects for which he has not the mental capacity. He is misunderstood by his father and is not given credit for doing the best that he can. He stammers worse when he talks to his father. Adjusting to his father is too difficult and when he tries to do so by means of speech he breaks down into a stammer.

The problem is to get Harold adjusted in the proper way to his classes and to his family. He can be quite successful if he is not forced to do something that is physically and psychologically beyond his capacities. Six months after his problem was interpreted to his teachers and parents Harold's mother reported a marked improvement in his speech.

The treatment of stammering and other functional speech defects is not a simple matter of speech training, but rather a complicated problem which must be studied by a well trained and qualified speech teacher.

Speech is the chief means through which we come into contact with other people. Unless speech is perfect a child will find it increasingly difficult or impossible to meet life adequately. To be deprived of perfect speech is a serious, crippling handicap. The whole character becomes unhealthy and warped and these children are caused needless shame, humiliation, and discouragement. They feel timid, insecure, inadequate, or inferior when they have to meet the group. A speech defect, however, minor, can interfere with a child's educational, social, and economic success.

Functional speech defects are symptoms of more serious underlying factors. If a child's speech is delayed beyond two years of age the matter should be given very serious consideration. Prolonged illness at the period when the child is developing speech may often cause the speech to be delayed. Even a slight deafness will interfere with the development of speech. If children do not hear perfectly they are not able to make the delicate coordinations of speech at the usual time.

Most mothers assume that speech is an inherited process and apparently think that under any type of training the child will develop speech. It is true that children are born with the capacity for speech, but they do not develop it unless there is a definite need for them to do so. Give the child a chance to hear good speech plus an active impulse for acquiring it, and the child with a normal brain and nervous system will develop speech.

Good speech is essential for mental growth. The poor speaking child fails to keep pace with pupils of equal intelligence, because of the impression he gives. To the average person or teacher, ignorant of the cause of the difficulty, he often appears inferior.

A slight injury to the brain through hemorrhages at birth, infections or inflammations will cause a delay in the development of the brain and consequently delay or retard the development of speech. A careful mental test will determine whether there have been brain injuries that have retarded a child's mental capacity. The following case is one of brain injury due to disease:

Robert, age seven, was referred to the speech clinic

by his school nurse. He talked "baby talk" of such an extremely indistinct variety that he could not be understood by his teacher, his classmates, or even his mother. He was seclusive and did not play freely or easily with his toys or with children. According to his teacher he was slow and stupid. He was awkward in his movements and fell down frequently. Upon examination he was found to be unable to control the movements of his tongue and could not lift it; consequently, his mother was urged to have him given a neurological examination. The neurologist's report revealed that Robert had been suffering from an inflammation of the brain. To the psychological test Robert responded as a boy with superior intelligence. Although his speech defect is on an organic basis, the chances of speech improvement are great and he is slowly but gradually improving.

Speech defects arising from a physical basis such as a malformation, injury or disease affecting the speech mechanism must be treated first of all from a surgical and medical angle. Surgeons and physicians have done wonders in aiding these children. But let us remember that, although surgery can mend defective parts of the mouth, nose, or throat, it cannot create the habit of perfect speech. President Roosevelt, left by infantile paralysis with an imperfect leg, had to work at it, by a heroic effort of will, before he could learn to use it. A man whose right hand is cut off must learn through careful effort the skillful use of his left hand.

So after a surgical operation in a child's speech mechanism it is necessary to re-educate his speech and to re-form new muscular speech habits. To obtain perfect speech in these cases is difficult; still, the improvement possible is very great, so that the effort expended to aid the child thus handicapped is more than justified.

The treatment of speech defects is by no means a simple problem, but rather one that calls for a thorough study, utilizing the contributions drawn from the fields of medical science, surgery, and psychiatry. It calls for a detailed study of a child's present and past emotional life and his environment. His emotions and attitudes must be readjusted, his fears must be removed, and his confidence in his ability to meet social situations, requiring speech must be restored.

Let me repeat that:

1. Any type of speech defect is a serious handicap to the child, causing untold hardships and disappointments as he fails to meet adequately the demands made of him socially, educationally and professionally.

2. That it is important to study this child thoroughly.

3. That most disorders of speech can be alleviated to an appreciable degree, if not wholly cured.

4. That if parents are to consider themselves wholly efficient in the general training of their children they should provide the required aid in the development of their children's speech.

---

#### APPEALING NOSTRUMS

Patent medicine ads are so attractive that it makes a man who has his health feel like he is missing something.—*South China Morning Post* (Hong Kong).

Why can't legitimate medical service be made to appeal to the public like that?—Ed.



# In Disturbances of the Sexual Function in the Female

**AGOMENSIN, "Ciba" or SISTOMENSIN, "Ciba" are Indicated**

**AGOMENSIN, SISTOMENSIN,**



A water-soluble extract  
of ovarian whole gland.

tional amenorrhea, early toxemias of pregnancy, sterility traceable to ovarian hypofunction, habitual abortion.

## WHAT IT IS

A lipid-extract  
of active female sex  
hormone, standardized  
by Allen-Daisy test on  
sprayed rats and Her-  
mann test on immature  
female rabbits.

## WHERE INDICATED

Where deficient vascu-  
larity of genitalis includ-  
ing ovaries exists. Func-

Where deficiency of fe-  
male sex hormone is  
present. More stable and  
more lasting than aqueous extracts. Menorrhagia of cer-  
tain types, dysmenorrhea; amenorrhea and sterility due  
to genital hypoplasia, disorders of the menopause.



**PROKLIMAN, "Ciba"** is indicated particularly in the treatment of disturbances  
associated with the menopause.

**CIBA COMPANY, INC.**  **627 GREENWICH ST., NEW YORK**

(Continued from page 21)

Perry .....	F. B. Hiller, Pinckneyville.....	H. I. Stevens, Tamaroa.
Platt .....	W. E. Burgett, Bement.....	J. H. Holmes, Monticello.
Pike .....	R. P. Wells, Pleasant Hill.....	W. W. Kuntz, Barry.
Pope .....	No Society.	
Pulaski .....	O. T. Hudson, Mounds.....	Berry V. Rife, Mounds.
Randolph .....	W. A. James, Chester.....	O. C. Church, Steeleville.
Richland .....	H. D. Fahrenbacher, Olney.....	F. L. Barthelme, Olney.
Rock Island.....	Perry H. Wessel, Moline.....	F. E. Bolleart, East Moline.
St. Clair.....	H. M. Voris, East St. Louis.....	I. L. Foulon, East St. Louis.
Saline .....	A. H. Beltz, Eldorado.....	W. J. Blackard, Jr., Harrisburg.
Sangamon .....	Harry Otten, Springfield.....	H. P. Macnamara, Springfield.
Schuyler .....	C. M. Fleming, Rushville.....	H. D. Munson, Rushville.
Scott .....	No Society.	
Shelby .....	A. B. Storm, Windsor.....	C. H. Hulick, Shelbyville.
Stark .....	J. C. Williamson, Toulon.....	Clyde Berfield, Toulon.
Stephenson .....	C. L. Best, Freeport.....	K. B. Rieger, Freeport.
Tazewell .....	Lydia H. Holmes, Pekin.....	Louis A. Balke, Pekin.
Union .....	Ernest Bollinger, Anna.....	W. J. Benner, Anna.
Vermilion .....	W. T. Snider, Oakwood.....	A. R. Brandenberger, Danville.
Wabash .....	E. P. Keneipp, Mt. Carmel.....	H. A. Elkins, Mt. Carmel.
Warren .....	Ralph Graham, Monmouth.....	Chas. P. Blair, Monmouth.
Washington .....	P. B. Rabenneck, Nashville.....	G. A. Green, Nashville.
Wayne .....	T. J. Blakely, Fairfield.....	L. W. Young, Fairfield.
White .....	J. T. Legier, Carmi.....	R. C. Brown, Carmi.
Whiteside .....	W. E. Wright, Sterling.....	L. S. Reavley, Sterling.
Will-Grundy .....	Bernard Klein, Joliet.....	D. W. Kilinger, Joliet.
Williamson .....	J. G. Parmley, Marion.....	Harvey A. Felts, Marion.
Winnebago .....	K. G. Woodward, Rockford.....	E. H. Quandt, Rockford.
Woodford .....	Wm. D. Madison, Eureka.....	W. S. Morrison, Minonk.

## OR TRY HEAD CHEESE

"Yes, I know fish is brain food, but I don't care  
so much for fish. Hain't there some other brain food?"

"Well, there's noodle soup."—*Ed Scanlan in the  
Buffalo Evening News.*

## TRY A SEA-HORSE

Wife (to seasick husband): "Look, John, over  
there. Such a big ship!"

Husband: "I don't want to see any ships. Call me  
when you see a bus."—*Humorist.*

# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN



Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

**Fireproof** building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

ARTHUR W. ROGERS, M.D., Physician in Charge  
JAMES C. HASSALL, M.D., Medical Supt. OWEN C. CLARK, M.D., Asst. Physician

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



Dr. George W. Michell, *Superintendent*  
Dr. Helen Coyle, *Medical Director*  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan

**WINNETKA, ILLINOIS**

16 Miles North of Chicago

Thoroughly Equipped Sanitarium

Hydrotherapy - Electrotherapy - Massage - Dietetics

Occupational Therapy Department

Special facilities are offered for the care and treatment of nervous and chronic diseases.

*Ideal for Convalescents*

Write for Booklet or Phone WINNETKA 211  
Wm. R. Whitaker Manager  
Wm. G. Stearns, M.D. Medical Director



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

Vol. LXV, NO. 5

OAK PARK, ILL., MAY, 1934

\$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for Titles) ..... 377

### ORIGINAL ARTICLES

American Medical Association's Service to Medicine. *Charles B. Reed, M. D., Chicago*..... 425  
Illinois State Medical Society Service to Medicine. *Philip H. Kreuscher, M. D., Chicago*.... 427  
Chicago Medical Society's Service to Medicine. *Thomas P. Foley, M. D., Chicago*..... 430  
Classification of Pulmonary Tuberculosis. *John Ritter, M. D., Miami, Fla.*..... 431  
Senile Cataract: Capsular Operation. *W. A. Fisher, M. D., Chicago*..... 437  
Urethral Lesions re Urination in Women. *Earl E. Ewert, M. D., and Russell D. Herrold, M. D., Chicago* ..... 440

Early Diagnosis of Pulmonary Tuberculosis. *D. O. N. Lindberg, M. D., Decatur, Ill.*..... 442  
Pneumolysis in Treatment of Pulmonary Tuberculosis. *Jerome R. Head, M. D., Chicago*.... 447  
Ureterocele. *Davis H. Pardoll, M. D., Chicago*.. 449  
Benign Bone Cyst in the Newborn. *Vito Vitting, M. D., and James B. Gillespie, M. D., Urbana, Ill.* ..... 451  
Medical Services Under the Federal Emergency Relief Act of 1933. *William C. Woodward, M. D., Chicago* ..... 454  
Ureteral Catheterization in Gynecologic Surgery. *Clarence C. Saelhof, M. D., Chicago*... 457  
Weak Points in Psychoanalytic Doctrine of the Unconscious. *Isidore Finkelman, M. D., Elgin, Ill.*..... 457

(Continued on Page 8)

Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918.

## MILWAUKEE SANITARIUM, Wauwatosa, Wis.

For NERVOUS DISORDERS

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

MAINTAINING the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

RESIDENT STAFF  
ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.  
MERLE Q. HOWARD, M.D.  
CARROLL W. OSGOOD

ATTENDING STAFF  
H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

COLONIAL HALL  
One of the 14 Units in "Cottage Plan."



# *Give your patients adequate treatment with*

## **SQUIBB POLLEN ALLERGEN SOLUTIONS**

THE success of any course of treatment against hay fever depends directly on the desensitizing activity of the extract and upon early initiation of the treatment. It is important, therefore, that highly potent extracts be employed and that the treatment be started preferably at least six weeks prior to the expected onset of symptoms.

Squibb Pollen Allergen Solutions are glycerol-solutions of the antigenic proteins of pure pollens and are standardized in terms of the protein nitrogen unit. They are prepared by methods which assure high potency, adequate stability and uniform dosage. The unit is a direct measure of the antigenic value of the solution and is equal to 0.00001 mgm. of protein nitrogen.

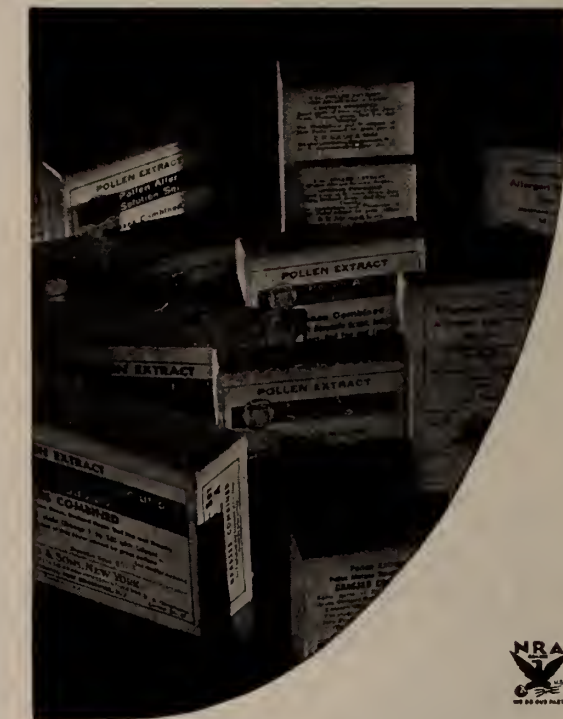
### **FOR DIAGNOSIS:**

A large assortment of Pollen Allergen Solutions is available.

### **FOR TREATMENT:**

**5-cc. VIALS**—An equally large assortment of Pollen Extracts is provided of uniform potency. 10,000 protein nitrogen units per cc. (equal approximately to 13,333 Noon pollen units).

**THE 3-VIAL PACKAGE** (grasses combined; ragweeds combined) for convenience and economy (39,000 protein nitrogen units, 52,000 Noon pollen units). Enough material for 15 doses plus a gener-



ous excess. Permits unlimited flexibility of dosage. No dilution or mixing required.

**THE 15-DOSE TREATMENT SET** (grasses combined; ragweeds combined) supplies a total of 16,000 protein nitrogen units as defined by Cooke and Stull (equal to 22,717 Noon pollen units).

**TREATMENT SET D**, which supplies five additional ampuls of Dose 15, increases the total protein nitrogen units to 41,000 (equal to 56,000 Noon pollen units).

*For literature giving complete information, compact and simplified dosage schedules and pollen distribution, mail the coupon*

**E. R. SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1859

E. R. SQUIBB & SONS,  
Professional Service Department,  
6905 Squibb Building, New York

Please send me literature on the prophylaxis and treatment of hay fever.

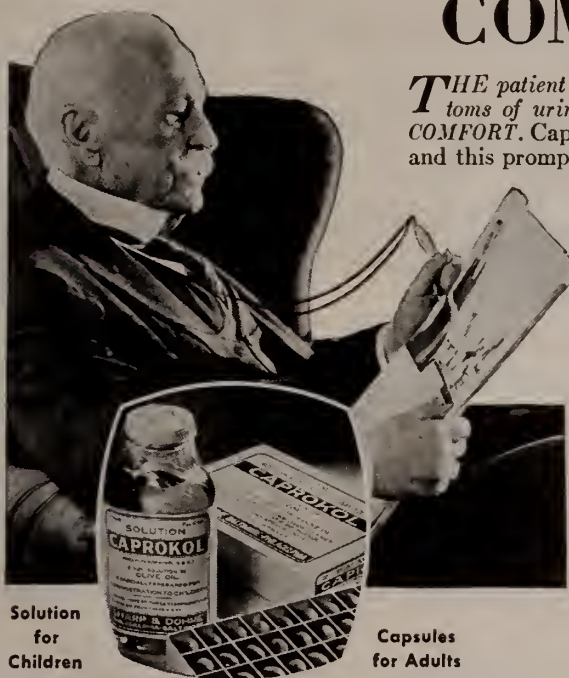
Name .....

Street .....

City..... State.....



# In Urinary Infections there is no Substitute for COMFORT



Solution  
for  
Children

Capsules  
for Adults

*THE patient who is suffering from the distressing symptoms of urinary infection will accept no substitute for COMFORT. Caprokol produces relief almost immediately, and this prompt EASE and COMFORT reconcile the patient to the time-consuming details of accurate urologic diagnosis.*

Caprokol, administered by mouth, is excreted in the urine, to which it imparts active germicidal properties.

There is not a single pathological condition of the urinary tract in which Caprokol is contraindicated, and there are few of infectious origin that it will not benefit. Interesting case reports will be sent on request.

## CAPROKOL

(Hexylresorcinol, S & D)

**Sharp & Dohme**

PHARMACEUTICALS      BIOLOGICALS

Philadelphia      Baltimore  
Montreal

A COMBINATION of all of the active derivatives of the pancreas which control carbohydrate metabolism together with the specific proteins necessary for regeneration of the pancreatic tissues.



FOR ORAL  
ADMINISTRATION

## TRYPSOGEN

Supplied with Enterosol Coating to insure the passage through the stomach for immediate absorption in the intestine.

*Bottles of 100, 500 and 1000 tablets.  
Plain or Enterosol Coated.*

**G. W. Carnrick Co.**

20 Mt. Pleasant Ave. Newark, N. J.

# FOR HEMORRHOIDS WYANOIDS



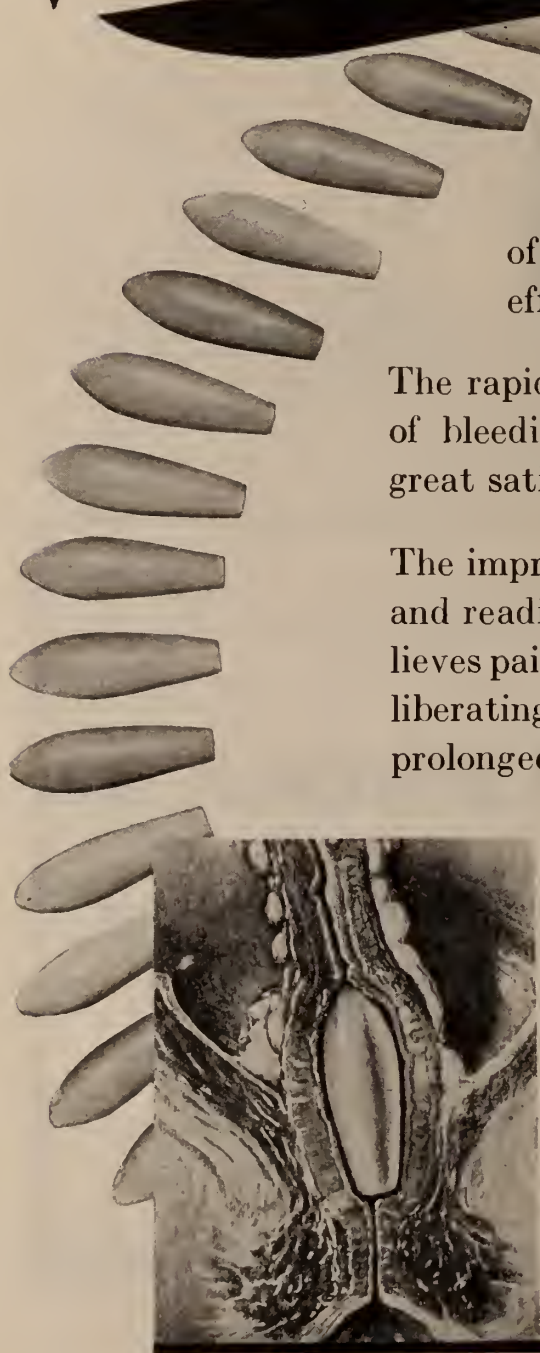
THE ready acceptance of WYANOIDS has been due to their effectiveness.

The rapid relief of hemorrhoidal pain, control of bleeding and promotion of healing gives great satisfaction to patients.

The improved torpedo shape is easily inserted and readily retained—the formula quickly relieves pain and bleeding—the base melts evenly, liberating the therapeutic ingredients over a prolonged period—the result being an efficient and safe hemorrhoidal suppository.

•  
WYANOIDS are packed  
12 in a box.  
•

**JOHN WYETH & BROTHER, Inc.**  
Philadelphia, Pa. and Walkerville, Ont.







*Thou driftest gently down the tides of sleep.—LONGFELLOW*

# ORTAL SODIUM

*The New*  
BARBITURIC  
HYPNOTIC

Ortal Sodium is accepted for N. N. R. by the Council on Pharmacy and Chemistry of the American Medical Assn

**O**RTAL SODIUM—the result of ten years of research in the Parke-Davis laboratories—is an effective rapidly-acting hypnotic; it induces sound, restful sleep, so necessary in a wide variety of physical and mental disorders. Ortal Sodium has low toxicity, and its use is free from unpleasant hang-over effect.

The effective hypnotic dose in most cases is one or two capsules.

Samples to physicians—on request.

*Supplied in  
bottles of 25, 100  
and 500 3-grain  
capsules.*



*Parke, Davis & Co.* **DEPENDABLE MEDICATION  
BASED ON SCIENTIFIC RESEARCH**



## The "Unsettled" Stomach

The stomach, like the weather, becomes easily "unsettled." There is nothing one can do about the weather, but the stomach that overproduces its acid secretions to its own and its owner's discomfort, can be brought to reason by CAL-BIS-MA.

Cal-Bis-Ma does quick work in gastric neutralization by introducing sodium bicarbonate and magnesium carbonate. This effect is made lasting by calcium carbonate and bismuth.

The effect is carried a step further by *colloidal kaolin* which, in conjunction with the bismuth, protects and soothes the irritated mucous membrane of the digestive tract.

Cal-Bis-Ma combines the best of the old and of the new principles in the treatment of gastric diseases in which alkalization is indicated. So well does it settle the stomach, that it frequently succeeds in uncomplicated nausea of pregnancy when other measures fail.

Trial supply sent on request. Please use letterhead.

*For gastric hyperacidity* **CAL-BIS-MA**



Cal-Bis-Ma (powder) is supplied in cans (with removable label) containing 1 $\frac{1}{2}$  and 4 ounces, and one pound. The dose is one or two teaspoonfuls in water.



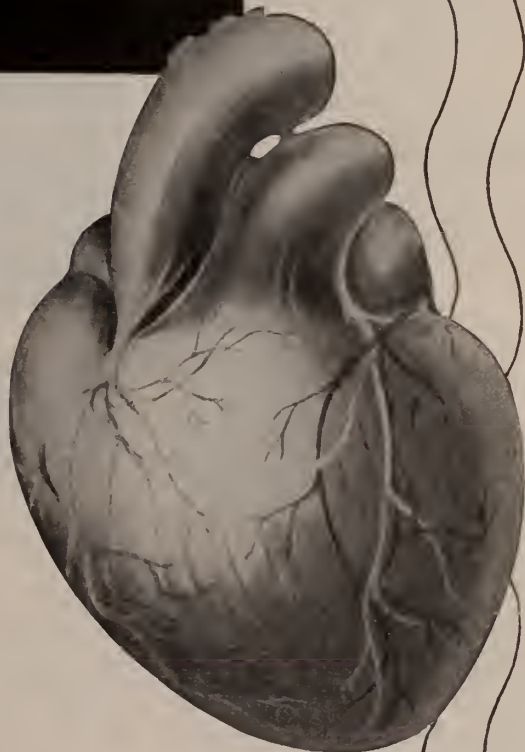
BETTER  
*coronary flow*  
BETTER  
*cardiac nutrition*

EXPERIMENTS on animals have shown that nucleosides, derivatives of nucleic acids, exert a regulating action upon the coronary circulation. The dilatation of the coronary arteries following their administration has been utilized in the treatment of angina pectoris where vascular spasms are considered an important factor in precipitating the attacks.

Myorgal is a concentrated extract of nucleosides obtained from various tissues rich in nucleoprotein material; and therefore exerts the combined effect of its components.

Myorgal is not an emergency remedy in angina pectoris, but in the common type of cases its continued use helps to prevent or lessen the severity of the attacks by assuring a better coronary flow with the resulting improvement in the nutrition of the cardiac muscle. Myorgal is well tolerated and can be given for many months without risk of untoward effects.

Dose: One tablet two or three times daily. Supplied in bottles of 25 and 100 tablets.



## MYORGAL

Reg. U.S. Pat. Off. and Canada

Brand of NUCLADEN

*Literature on the action and therapeutic indications  
of Myorgal will be sent to physicians on request.*

WINTHROP CHEMICAL COMPANY, Inc.

New York, N. Y.

Canada: Windsor, Ont.

Laboratories and Factory: RENSSELAER, N. Y.



• "What is the little lady doing?" "A bit of wash." "Is that adhesive plaster on her wrist and is she getting it all wet?" "It's in the water, but it's not wet because it's waterproof!"

• Drybak's edges will not turn up. It is suntan in color — doesn't have the conspicuous "invalid" or "accident" appearance of regular adhesive plaster. Wound on J & J cartridge spools, in standard widths and lengths. Order from your dealer.

**COSTS NO MORE THAN  
REGULAR ADHESIVE PLASTER**

**Johnson & Johnson**  
NEW BRUNSWICK, N. J. CHICAGO, ILL.

Professional Service Department

"You mean it's waterproof...?"



"...I mean it's waterproof!"

**DRYBAK**  
THE WATERPROOF ADHESIVE PLASTER

## CONTENTS—Continued

Status of Bismuth in Treatment of Syphilis. S. J. Zakon, M. D., Chicago.....	458
Ten Cases of Abdominal Pregnancy. Edward L. Cornell, M. D., and A. F. Lash, M. D., Chicago.....	462
Diagnosis of Abdominal Allergy. Charles J. Drueck, M. D., Chicago.....	467
Illinois Pioneers of Medicine. Lucius H. Zench, M. D., Chicago.....	470

## EDITORIALS

Medical Profession as a Herod.....	377
Preventability and Horse Sense.....	380
Passing of Doctor Center.....	382
Illinois State Medical Activities.....	383
Codes of Moses and Hippocrates.....	385
Michigan State Society Re Socialized Medicine.....	385
Virginia Rebukes.....	386
Medical Economics.....	386
Back Numbers Wanted.....	387
Suggestions on Copy.....	387
Ethics of Collection Agencies.....	387
84th Annual Meeting.....	388
Springfield.....	389
Men's Golf.....	390
Official Program Annual Meeting.....	391
Points of Interest in Springfield.....	417

## CORRESPONDENCE

Sangamon County Invites.....	421
Correction. Beulah Cushman.....	421
Medical Trip to Hungary.....	421
Bulletin on Cancer.....	421
Society of Industrial Medicine & Surgery.....	421
Woman's Auxiliary, State.....	421
Woman's Auxiliary, A. M. A.....	422
First Fracture Table.....	422
Samuel D. Gross Prize.....	423

## SOCIETY PROCEEDINGS

Cook County, Chicago Medical Society.....	473
Greene County.....	473
Madison County.....	473
Marriages.....	473
Personals.....	474
News Notes.....	475
Deaths.....	476

## SEVEN YEAR'S USE

*has demonstrated the  
value of*

*The Surgical Solution*

*of*

**MERCUROCHROME, H. W. & D.**

*in*

## Preoperative Skin Disinfection

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

*Literature on request*

**Hynson, Westcott & Dunning, Inc.**  
BALTIMORE, MARYLAND



*“the commonest ailment of infants  
in the summer months”*

(HOLT AND McINTOSH: HOLT'S DISEASES OF INFANCY AND CHILDHOOD, 1933)

**One of the outstanding features of DEXTRI-MALTOSE is that it is almost unanimously preferred as the carbohydrate in the management of infantile diarrhea.**

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea "is still a problem of the foremost importance, producing a number of deaths each year. . . ." Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13: 803, 1923), "There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms."

In diarrhea, "The sugar is added gradually, conditions admit, some sugar other than milk sugar or cane sugar being used, preferably **dextrin and maltose**."—H. E. Small: *Diarrhoea in bottle-feeding*, J. Maine M. A. 12:152-158, Jan. 1932.

In diarrhea, "Carbohydrates, in the form of dextri-maltose, well cooked cereals or rice, usually can be handled without trouble."—B. B. Jones: A discussion of some of the commoner types of infantile diarrhea, and the principles of the diets used in their treatment. Monthly, 66: 411-415. : maltose.

"The most desirable sugar is dextri-maltose, the sugars maltose is least apt to

Concerning the treatment of diarrhea, "If the weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, but in such a way as to avoid causing fermentation. This may be done by adding dextrin-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo, of body weight."—L. R. Ralston.

Nutritional disturbances. Arch. Pediat., 4:777 Nov. 1924.

[illegible]

In cases of malnutrition and indigestion, the appetite improves rapidly, and the stools soon become normal in appearance. If the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the following known as "dextrin-maltose," for the hydration: ————— M. Ladd: Furber's Patent Hydrated, sterilized olive oil mixture July, 1916.

"After the preliminary short period of starvation, protein milk should be used. . . . When the diarrhoea has been sufficiently checked, dextrin-maltose may be added and gradually increased until from 4 to 6 tablespoons are being used."

(W. L. Denney: Acute nutritional disturbances in infancy. Univ. West. Ontario Medical Journal, April, 1932.

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1." —F. R. Taylor: "Summer Complaints," *Southern Med. & Surg.*, pp. 555-559, August, 1927.

In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so *dextri-maltose* is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama* 1:278-282, Jan., 1932.

use a preparation with a high dextrin and relatively low maltose content."

"If it is desired to feed an unusually large amount of sugar to a baby, it is well to use a maltose-dextrin preparation, as in this way there is less danger of bringing about sugar fermentation than if lactose were used."—L. W. Hill. *Practical Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 206.

"The young but third milk... Saunders Co.,  
ture, usually one-third milk...  
skimmed at first, and a half...  
We prefer Danisco-Maltose as the carbohydrate...  
most easily digested. . . . Preparations containing...  
but the more maltose are more rapidly absorbed, but...  
on the other hand, are more liable to produce...  
diarrhea. . . . Lactose which was very popular a...  
one time, is never used in our work. The consensus...  
of opinion seems to be that milk sugar is often...  
source of indigestion in normal infants and the...  
primary cause of fermentative dyspepsias in...  
"Primary instances."—J. H. Redding, Jr. Artificial...  
"D. Maltose" is a sufficient during ail 1923.

"Protein milk may be continued for several weeks when a gradual transition to a whole milk or evaporated milk formula, which will supply about one and one-half to two ounces of whole milk to every pound of body weight, is reached. This also should finally have the addition of dextrin-maltose amounting to five to seven per cent.—R. A. Strong: Summer diarrheas in infancy and early childhood, Arch. Pediat. 47:344-354, June, 1930.

preparations are preferred, for they do not ferment readily, are rapidly absorbed and leave very little for fermentation."—V. A. Blenkle: Protein milks in infant feeding. Arch. Pediat., 42:743-760, Nov. 1925.

"... I begin to add carbohydrates slowly, by replacing  $\frac{1}{4}$  ounce Casec every two days with  $\frac{1}{4}$  ounce of Dextri-Maltose, preferably Dextri-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextri-Maltose is used, the Casec, of course, should be discontinued."—J. H. Reed: *The etiology and treatment of diabetes*

"When sugar causes diarrhoea one can change the form of it. Mead's Dextrimaltose in small doses is more quickly absorbed and so superior to castor (cane) sugar. Lactose is expensive and seems not to be better than castor sugar."—H. B. Gladstone: *Infant Feeding and Nutrition*, 1914, p. 101.

"Milk-sugar, which has been used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextrin-maltose. The latter is the best of all sugars to use, especially if there is any tendency to looseness of the bowels."—A. Brown: *The Normal Child: Its Care and Feeding*, F. D. Goodchild Co., New York, 1902, p. 120.

diarrhea, "Dextri-maltose  
rbed, for they do not ferment  
A. Blenk: Protein milks  
Pediat., 42:743-760, Nov.,  
ered to partly  
best to partly  
mixtures (Mead's Nos.  
sugar is less suitable than lactose, and if for any  
reason there is objection to the use of lactose,  
is obtained by the addition of carbohydrates, while  
fat and casein are reduced. For this purpose dex-  
trimaltose and flour are better than the ordinary  
sugars, since they are more slowly absorbed and  
have greater efficacy in their powers of controlling  
the flora in the large intestine."—W. J. Pearson  
the flora in "W. G. Wyllie: Recent Advances in Diseases  
of the Intestine," Philadelphia, 1930,  
Blakiston's Son & Co., Phila., 1930,

For cases of fermentative diarrhea, "... the ideal plan of treatment would be to give a food which is low in sugar (the food which that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextri-maltose to the formula."—A. G. DeSandis and L. V. Pailer: The value of calcium caseinate milk in fermentative diarrhea. *Arch. Pediatr.* 28:223 (1941)

Just as DEXTRI-MALTOSE is a *carbohydrate* modifier of choice, so is CASEC (calcium caseinate) an accepted *protein* modifier. Casec is of special value during the sum-

mer months (1) for colic and loose green stools in breast-fed infants; (2) in fermentative diarrhea in bottle-fed infants, (3) as a prophylactic against diarrhea in infections.

## DO YOU KNOW THAT—

One of the most remarkable feats in surgery was the removal of an entire lung from a three-year-old child suffering from cancer of the lung? The operation, performed by Dr. William F. Reinhoff, Jr., Johns Hopkins Hospital, is only the second such ever performed and the first attempted on a child; the child is now well and living normally.

First surgical removal of an entire lung was performed on an adult patient in April by Drs. Evarts A. Graham and J. J. Singer of Washington University Medical School, St. Louis.

## DO YOU KNOW THAT—

Bacteria survived freezing for weeks in liquid helium at a temperature of about 450 degrees below zero F. and were able to multiply after being thawed out?

According to Dr. Floyd L. Ruch, University of Illinois, the aged find particular difficulty in learning material that reverses previous learning?

## CLEVER LAD

Teacher: "Why was Solomon the wisest man in the world?"

Boy: "He had so many wives to advise him."

Teacher (a strong minded woman): "Well, that is not the answer in the book, but you may go up to the head of the class."

## OUR PATERNALISTIC GOVERNMENT

A citizen of the United States was arrested recently by federal authorities for having \$250,000. It was his own money. He had come into possession of it legitimately. The trouble was that he had it in *gold*.

You may sympathize with this man. Or you may feel that he got what was coming to him. But no matter what view you take, the incident is significant of this: That our Government today—as never before—is affecting the personal life of the individual! What is now happening is so important to you in every phase of your living that you cannot afford *not* to know the facts.

## DE DUCKS GOT IT ALL

Sam Johnson, a colored cotton planter of Mississippi, came into the country bank and asked for credit.

"Why, Sam," said the banker, "haven't you just sold your cotton?"

"Yes, suh," was the answer, "but de ducks all got it."

"The ducks all got it?"

"Yes, suh. I shipped it up to Memphis, and dey deducks foh freight, deducks foh hauling, deducks foh storage, deducks foh insurance, and deducks foh commisshun. De ducks jus' achully et up all dat cotton. Dat's why I'm heah."—*Patchwork*.

## OBSEQUIES

Constitution week is over and I didn't know about it until it was too late. Gosh! I meant to send flowers,

even if I didn't go out to the cemetery.—R. H. L. in *Chicago Tribune*, Sept. 19, 1933.

Cases of obstinate and long-standing constipation (not associated with specific lesions) were relieved in varying degrees by diathermy. Each patient had four diathermy treatments per week for four weeks. The treatment was administered by two large electrodes, one on the abdomen and one on the back. The amount of current varied from 1,500 to 2,500 milliamperes, continued for half an hour. The electric treatment was preceded by abdominal massage for twenty minutes and each patient received two colonic irrigations per week.—Dr. Violet M. H. Rendall in *Lancet* (London), Aug. 6, 1932.

Stahl reports a case of dislocation of the gladiolus behind the manubrium. A preliminary roentgenogram was not taken because of the visible suffering of the patient. He was given nitrous oxide anesthesia and an attempt was made at reduction by extension of the dorsal spine and pressure upward on the manubrium, but this was unsuccessful. Therefore the front of the chest was prepared and a small stab wound was made over the gladiolus 1 inch below the site of injury, and a heavy corkscrew was then turned into the gladiolus. A sharp two-toothed retractor was then stabbed through the skin into the lower end of the manubrium and reduction was easily accomplished. Following this, a cross clavicular splint was worn for four days and the front of the chest was strapped with adhesive plaster. The patient was comfortable on awakening. A roentgenogram taken the day after reduction, in profile and anteroposterior views, showed good position, and the separation to have been at the junction of the manubrium with the gladiolus with no fracture of the ribs or other bony structure of the chest. The patient made an uneventful recovery.

## PLAYING A LONG SHOT

A bookmaker, who was ill, sent his small son to tell a certain doctor to call. A different physician having arrived, the bookmaker afterward asked his son to explain.

"Well, you see, Dad," he said, "there were a lot of brass plates on the doors, and when I got to the number you gave me I saw 'Consultations, 11 to 12.' The chap next door was offering 'Consultations, 10 to 1'; so I knew you'd like the one that gave you the best odds."—*Ireland's Own*.

## THE PREVENTION OF MEASLES

There seems to be a general agreement as to the value of adult human convalescent serum for the prevention of measles and some claim as high as 80 to 90 percent success. In using it, however, we must always remember that the resultant protection is only passive and will not last more than three weeks. This is the only measure of prevention of measles which has met with any degree of success.—Editorial in *Internat. Med. Digest*, Nov., 1932.





A monograph on the rational drug treatment of cardiac conditions associated with pain will be mailed to physicians on request.



*This Psychic Factor  
in Dolor Cordis—  
Cardiac Conditions  
Associated with Pain*

● Even worse than the body-wracking and devastating pain associated with angina pectoris, coronary sclerosis, and coronary thrombosis, is the morale-de-stroying fear and apprehensiveness of not knowing when or

where the next paroxysm may appear. \* \* \* \* The prophylactic action of Aminophyllin removes this psychic factor, by obviating the attacks or reducing the frequency and severity of such attacks as do appear. \* \* \* \* When this spectre of fear—the psychic factor—is removed, confidence returns, and with confidence comes renewed efficiency.

*J. D. Searle & Co.*

FINE PHARMACEUTICALS SINCE 1888

CHICAGO • LOS ANGELES • KANSAS CITY • SPOKANE

*Aminophyllin (Searle)*

C O U N C I L A C C E P T E D



## CHARTS CAN'T EXPLAIN IT

It takes personal observation in practice to evaluate properly the good effects of Alka-Zane in systemic acidosis—threatened or actually present.

The clinical thermometer will show how fever abates when Alka-Zane is an adjunct of the treatment in influenza and other febrile diseases.

The pregnant woman will curtail her story of uneasiness and discomfort, when Alka-Zane is administered during the puerperium.

Certain skin diseases will show a marked tendency to improve, when Alka-Zane supplements the treatment.

Albumin will diminish in the urine when Alka-Zane is given in nephritis.

These are just a few examples where Alka-Zane may prove of evident usefulness in the treatment of diseases in which acidosis is a complicating factor.

*Trial supply sent on request. Please use letterhead.*

## ALKA-ZANE — *for acidosis*



Alka-Zane is supplied in bottles containing  $1\frac{1}{2}$  and 4 ounces. The dose is one teaspoonful in a glass of water.

Alka-Zane is an effervescent salt of the carbonates, phosphates and citrates of sodium, potassium, calcium and magnesium. It is free from lactates, sulphates and tartrates, and sodium chloride. A teaspoonful in a glass of water makes a zestful, refreshing drink.

WILLIAM R. WARNER & CO., INC.  
113 West 18th Street New York City



No. 4 of a Series of Advertisements Prepared in the Interest of Acetanilid U.S.P. by the Emerson Drug Co.



# AS PRESCRIBED

**R<sub>x</sub>**

Approximately 3 grains acetanilid combined with caffeine and sodium bromide in an effervescent base, furnishing liberal amounts of alkali.

Is this not unquestionably a good, very good combination to *relieve* headache, pain of nerve origin, nervousness, muscular pains and the so-called hangover? That is the combination of Bromo-Seltzer, Doctor.

**IS IT SAFE?** Three subjects received 1386 grains acetanilid in 21 weeks; seven received 1056 grains in 16 weeks without any ill effects.\* In animals the enormous dose of 650 mgms. per kilo bodyweight given by mouth over a period of six weeks (equivalent to one-half the lethal intravenous dose daily) produced no ill effects.\*

**IS IT HABIT FORMING?** In an effort to replace opinion by facts, reports from 2,000 hospitals in the United States were studied. The number of admissions represented over 2,500,000 annually for 10 years or 25,000,000 admissions. Only 3.4 cases of so-called addiction per million admissions were reported, and admittedly these cases were not true addiction. If we judge by the millions which are the rule instead of by the rare exceptions, the opinion that acetanilid is habit forming is relegated to the realms of myth and superstition.

\*Both of these papers have been referred to and reprints offered in earlier announcements in this series. If you have not sent for them check the coupon.

*Further studies will be sent you shortly if you so request on the coupon.*

EMERSON DRUG COMPANY, Baltimore, Md.

Check below which you wish:

- ☐ I have not received reprints offered earlier. Please send them.  
☐ Send me reprints of further studies on acetanilid as they appear.

..... M.D.

..... Street & No.

..... City & State



## EMERSON DRUG COMPANY

BALTIMORE, MD.

# ELI LILLY AND COMPANY

FOUNDED 1876

*Makers of Medicinal Products*



## Noteworthy combinations of Amytal:

*Pulvules Ephedrine and Amytal* for relief of bronchospasm. The value of this combination therapy in hay fever and allergic asthma has been amply demonstrated by many clinicians.

*Pulvules Amytal Compound* offer sedation with analgesia and have a wide field of therapeutic application in restlessness and insomnia where pain is a factor.

*These Lilly Products are supplied through the drug trade in bottles of 40 and 500 Pulvules.*

*Prompt Attention Given to Professional Inquiries*

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., May, 1934

No. 5

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1933-1934

PRESIDENT.....PHILIP H. KREUSCHER, Chicago  
PRESIDENT-ELECT.....CHARLES D. CENTER, Quincy  
1ST VICE-PRESIDENT.....C. G. FARNUM, Peoria  
2ND VICE-PRESIDENT.....H. V. GOULD, Chicago  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1934  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1934  
S. E. Munson, 5th District, Springfield .....1934  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1934  
C. E. Wilkinson, 8th District, Danville .....1935  
Andy Hall, 9th District, Mt. Vernon .....1936  
J. S. Templeton, 10th District, Pinckneyville .....1936  
Edw. S. Hamilton, 11th District, Kankakee .....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, Chairman.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, Secretary.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN McARTHUR, Secretary.....185 N. Wabash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, Chairman....4034 W. Madison St., Chicago  
HAROLD M. CAMP, Secretary.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, Secretary.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Ave., Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

### INDICTMENT OF THE ETHICAL MEDICAL PROFESSION AS A MAMMOTH, MODERN HEROD

Report as to maternal mortality made by the New York Academy of Medicine affords to the communistically inclined economists fresh indictment of the ethical medical profession as a mammoth, modern Herod.

Advocates for the restitution of the infamous Sheppard-Towner bill seized at once upon this report and everywhere are issuing subtly distorted quotations from its content.

Already this biased interpretation has appeared in the editorial pages of one of the largest and most popular of newspaper chains as well as in at least three of the popular priced home magazines of national circulation.

This means that at least *eighty per cent of the population of the United States is being fed this poisonous propaganda.*

For the propagandist it must be said that they are at least resourceful both in point of figure juggling and in the rallying of recruits. One of the ladies of the pen who *mixed a fine grenade for the medical profession* from the findings of this report frankly declares "for midwives."

Now the sincerity of the New York Academy of Medicine in returning this report is indubitable. Its taking ran over a period of three years of exhaustive study. Among other ramifications of investigation every maternal death that occurred in New York city during the period 1930-32 was investigated within one week of its occurrence.

Of the total of 2,041 deaths, a jury of obstetricians held that some 1,343 or about three-fifths or some sixty-one per cent of the deaths in childbirth were preventable and while this preventability lay more directly in lack of proper prenatal care, this responsibility was generously laid at the door of the medical profession.

How much of this lack of prenatal care must be attributed to the current and continuing dis-

astrous economic situation and what proportion must be assigned to lack of prenatal education, and in turn how much of this deficit in prenatal education must be accredited to that class of maternity cases which "having eyes see not and having ears, hear not" can not be definitely ascertained, and, naturally no effort has been made to do so. All of which sane procedure has not prevented proponents of the socialistic Sheppard-Towner cause from raising a howl and stating:

"The solution as outlined by doctors and social scientists includes among other things" (a long list of suggestions is here interpolated that lead up to the loaded climax of—Ed's note)

#### EXTENSION OF THE SERVICE CREATED BY THE SHEPPARD-TOWNER BILL, ONE GENEROUS ENOUGH TO MEET THE WIDER DEMANDS OF TO-DAY."

Since one of the faults of this iniquitous legislation was that it provided neither shelter, food nor clothing for either mother or child but only fat-jobs for politically appointed nurses raised to obstetrical rank by the laity, not physicians, evidently this new legislation in its extended powers is going to gouge tax-payers more deeply than ever. The trouble is that there is fact and figure to prove that the great United States taxpayer is rapidly becoming as extinct as the Maori race of which the last man died just the other day. With one out of every five citizens on the government payroll and tax-exempt before long where's the government pay-roll to come from?

Well, there just isn't going to be any, any more.

Getting back to the rest of the quotation. The article proceeds in the next sentence to state:

In the carrying out of this program a great responsibility rests upon the doctors. If they do their part toward it, the greatest obstruction to it will have been overcome. *For it was the doctors who defeated the attempt to prolong the dispensation of the Sheppard-Towner Bill, in the passage of which by Congress in 1921, Good Housekeeping was a strong shoulder at the wheel.*

This enactment set aside a fund by which the Federal Government was enabled to donate five thousand dollars for maternity aid to states making a like appropriation for the same purpose. In all, forty-one states and the territory of

Hawaii met the offer in good faith. Just at the time results were beginning to accrue in the way of decreased infant and maternal mortality, Congress—the Senate part of it—turned its back on this kind of altruism and common sense, and the work stopped. Efforts were made to procure follow-up legislation. *That they failed was due in part to the powerful opposition of the medical fraternity.*

It is now time, in the face of the current report, for the doctors to make amends by lending the full strength of their approval and influence to bring about the new era involved in the program. For it is they who will stand convicted in public opinion if they fail to do so.

In a great degree it is also up to the mothers to become aware of their responsibility not only to themselves but to their children—that they may enter this world whole and healthy and with the assurance that they will have the care and training which only a conscious and conscientious motherhood can give them.

"Upon the women of this country now lies a tremendous obligation. In every city, town, and village, they have the power, if they will use it, to insist that the local, state, and federal governments support by proper regulation, enactment, and appropriation every item in this project of safe and sound motherhood. It is only by this strong offensive that the day can be won, and the bright millennium attained when the robbed and tortured mothers of the past will not have lost their lives in vain."

It will be news to every self-respecting man of medicine that he has not through the years been responsible to his conscience for maternity patients. However, this article in "*Good Housekeeping*" a highly regarded periodical goes still further into the realm of injustice to maternal mortality. In the first place it must be connoted that the flat statement that the United States has the highest maternity mortality is untrue since there is no standardized yardstick for the measurement of comparative maternity mortality statistics and that these statistics vary with nationalities in their respective basis of computation. It is the old story of clinical tests plus laboratory tests to the exclusion of either when accuracy of diagnosis is at stake.

But getting back again to our quotation, "Every baby needs a mother," it starts and con-



tinues, "And yet—over 200,000 babies have been left motherless at birth in the thirteen years since *Good Housekeeping* first advocated the passage of the Sheppard-Towner Bill, which stressed the necessity for prenatal care and offered Federal co-operation with the States in providing it. Every one who knew anything at all about the subject knew that thousands of maternal deaths were preventable, and lack of prenatal care was considered an important factor in this death loss. Another and most important, factor was known to be the attitude—one might more truly say the carelessness or the incompetence—of the attending physicians, but this was a stone wall as long as the medical fraternity refused to admit its culpability. Now it has made such an admission, assuming the responsibility for 61.1 per cent. of the preventable deaths in New York City for the three-year period 1930-32—a measure of responsibility that by no means applies to New York City alone. Now is the time to make the whole country conscious of the appalling facts brought out by the New York Academy of Medicine's report and to demand that the doctors themselves now lead the way back to safety for every woman who would bring a child into the world."

Follows a pathetic story, probably a true one about a young girl, married at an early age to an equally young husband, who died in childbirth in a maternity ward. She had not been to a doctor or to clinic for some four months previously, and naturally had done nothing through ignorance to prepare herself for her "ordeal" by giving "prenatal care to the evidence of cardiac weakness." Which is true probably, yet not any reason per se for saddling the country with a new Sheppard-Towner bill.

Further along in this article is quoted an interview with Miss Hazel Corbin, director of the Maternity Center Association in New York City. Miss Corbin may be a nurse but she is not a doctor. Listen to what she has to say on the subjects of obstetrics and Sheppard-Towner: "Much that goes wrong is because of the regulations by the city itself. If a woman goes to a clinic which is not a part of the city hospital service, she can not have free care at one of its hospitals at childbirth. She may, if there is a Public Health nurse in her neighborhood, avail herself of such service. But if the Public Health

work has been curtailed, it is often impossible for the mothers to get proper advice and help during the months before their babies are born," says Miss Corbin.

To which the author of the article appends: "This could be easily taken care of. It costs the cities all the way from \$3.50 to \$5.70 a day for ten days to take care of women during childbirth and afterward. *This same amount of money would pay a good midwife who, in Miss Corbin's opinion, could in normal cases, take excellent care of both mother and child and look after the regimen of the household.* Four years ago when the Children's Bureau at Washington made public its report of maternal mortalities, it set forth the many fatalities occurring through the ignorance and ineptness of midwives. Reminded of this, Miss Corbin responded:

" 'I said *good* midwives. While here in this city the requirements for midwives are comparatively high, at the same time direct medical supervision is lacking. No midwife should be allowed to deliver a patient who has not first been examined by an obstetrician and pronounced normal. Then, too, the present practicing midwives should be given "refresher" courses each year to keep them up-to-date.' "

Now doctors what do you think of that?

Proceeds the interview:

"There are other counts on which the present system may be taken to task. Something more is needed beside a minimum amount of prenatal diagnosis and prescription. Women who are about to become mothers are highly sensitive. It is easier for them to tell their troubles to another woman than to a man. In the official clinics the doctors and nurses are too busy to give much time or thought to the personal needs of any one patient. The hospital, as a rule, is a cold institution—one takes what one gets, or one goes some place else. Place a diffident and frightened young woman in the hands of such disinterested service, and her mental condition may easily react upon her physical well-being. In this respect, Miss Corbin said:

" 'Our nurses are made to realize that their full duty is to take care of any condition which affects the health, happiness, and peace of mind of the mother. They are taught to make friends with their patients, in order to find out every-

thing they can about them and do their utmost to minister to their needs.'

"Miss Corbin spoke with indignation of the growing attitude in some directions toward the *right of the poor to have children*. 'You have no idea,' she said, 'how widespread this feeling is. It is just too bad if a young couple who are in love are to be denied the privilege of having a family. Two young people, husband and wife, came to see me the other day seeking advice. They were splendid, upstanding young Americans. Their particular problem was not only ways and means, but the necessity of the wife holding on to her job. The husband's salary had been cut, and she wanted to go on working in order to save money for the layette. As she was not very far along, and her condition was good, we told her there was no reason why she should not do so. But what broke my heart was their apology for daring to have a child. The husband said to me, "You know, some way or other—I don't suppose we should under the circumstances—we can't help being happy about it."

" "Of course, you can't," I replied. "Why shouldn't you be? Two such fine healthy young people!"

" "It's good to hear you say that," said the wife. "Every one acts as if we were committing a crime." " "

"Miss Corbin spoke of one of the criticisms against the Academy's report. 'It has been said,' she stated, 'that it would make women afraid to have children. That, of course is ridiculous. They don't need to be afraid if they are informed and if they are given the proper advice and facilities—something that they are not getting today. All over the country public health appropriations have been cut down until the budget can not take care of even the minimum of emergencies. In Georgia the last visiting nurse has just been taken off the list. In other states the curtailment is answerable for an enormous number of fatalities.'

Certainly the New York Academy of Medicine must be appalled at the way in which its conscientious scientific report has been recruited by the laity for a poison gas attack against the medical profession which it seeks to serve.

## PREVENTABILITY AND PLAIN HORSE SENSE

The pith of a letter is often its postscript. One of the salient pungencies of the much discussed maternal mortality report of the New York Academy of Medicine lay in its ultimate summary.

These concrete conclusions are worth the citing and the pasting up in your office. They read:

### CONCLUSIONS AND RECOMMENDATIONS

"To improve this situation and remove the causes out of which it arises, it is evident that there must be a determined effort to educate both the lay public and the medical profession to an understanding of the necessity for change in certain of the methods now employed. The profession itself must accept the responsibility for educating the lay public to a better understanding of the aims of obstetrics and the methods by which those aims may be realized. But prior to that must come increased education of the profession, that it in turn may wisely inform the lay public.

"First, a prospective mother must have further instruction in the necessity for prenatal care. She must be taught that prenatal care does not mean merely registering for confinement; that it is imperative to obtain that care as early as pregnancy is suspected; that one visit at which no abnormalities were discovered is no guaranty of continuing good health but that regular return for observation is vital if her attendant is to be enabled to give her the best possible care; that previous normal pregnancies and deliveries do not assure subsequent normal ones; that proper and sufficient prenatal care offers her the greatest assurance of an uneventful confinement.

"Furthermore, some information must be made available to the patient as to the standards of such prenatal care. She should have some knowledge of the purposes of such care and what she may expect from her attendant as the minimum requirements of a proper prenatal supervision. She should know that the omission of urinalysis, blood pressure determination, or the measurement of her pelvis constitutes negligence; that a thorough physical examination is a necessary part of proper care. She must be informed of the possible gravity of symptoms that seem to her mild, and the fact that early treatment is the prerequisite to the prevention of later trouble.



"The medical profession is obligated to inform the lay public that operative delivery undertaken merely to alleviate pain or shorten labor involves increased risk for both mother and baby.

"The relative safety of delivery at home should be emphasized. Effort should be made to induce women who cannot obtain adequate medical or hospital care to avail themselves of the services of qualified midwives under the supervision of physicians.

"To accomplish this education, the medical profession must assume a role which heretofore has been left to lay organizations. Confidence of the lay public in the medical profession will enable this to be done with greater authority and increased chances of success. . . .

"To do this well, the outstanding members of the profession in every community must actively interest themselves in the process. Obstetrical societies would do well to use the channels of the press and radio to broaden the sphere of their activities in this line. They would further increase their educational function by issuing authoritative pamphlets from time to time. They must assume responsibility for the teaching given through social service and lay organizations. . . .

"Hospitals, in order to qualify for recognition by the controlling authorities, must have qualified obstetricians as directors of their staffs. . . . The hospital must maintain a special clinic for prenatal care, in charge of a member of the visiting obstetrical staff. There must be a sufficient number of beds set aside for the hospitalization of clinic patients with complications. There must be a social service department adequate as to training and personnel, to keep in touch with all patients, to insure early registration and regular attendance; to facilitate the patients' co-operation through home adjustments; to assist in the educational function of the hospital to the community.

"All hospitals must maintain separate delivery rooms where only obstetrical cases are treated. The rules for the maintenance of asepsis must be rigid, including masking, the importance of which deserves reemphasis. Labor rooms must be sufficient to insure their availability to all patients. Isolation must conform to the most stringent regulations and include proper technic on the part of the nursing staff. All nursing must be done by properly supervised nurses, who should be especially trained in obstetrical nurs-

ing. The resident staffs must be under supervision at all times. There must be an invariable rule requiring the responsible attending physician to see patients promptly and supervise directly the residents who are assigned to them. Furthermore, the less experienced members of the staff must be under supervision of the responsible heads. . . .

"Proprietary hospitals should be brought under the supervision of a responsible board of hospital control and unless they provide adequate facilities as described above, except for prenatal care and social service, they should not be permitted to accept obstetrical patients.

"The situation in regard to midwives must be altered. More schools are needed for their training, including both women who have had previous training as nurses and those who have not: effort should be made to enroll types of women who would be acceptable to groups of the population now unwilling to employ a midwife, and the nurse-wife is suitable for this purpose. Licensure should be based upon examination. Additional short courses, at stated intervals, should be compulsory. Supervision should be increased, and changed to include actual oversight of cases under care. With physicians in charge approximately trained nurse-midwives might make suitable supervisors. Midwives should be required to report births within forty-eight hours, to report immediately any abnormality during labor, and to call consultation if labor continues beyond a definite time limit. The physician must be prepared to give the midwife unqualified cooperation. Some hospitals might well make use of midwives to conduct the deliveries in their outpatient service, under the direction of the inpatient obstetrical department.

"The hazards of childbirth in New York City are greater than they need be. Responsibility for reducing them rests with the medical profession."

"Too much Johnson" may be found to be the cause of "preventability" when the hurricane that cameth out of New York has been winnowed down to sense and sensibility!

One of the findings of the committee of the New York Academy of Medicine in its survey of maternal mortality was that surgical procedures were resorted to four or five times oftener than was actually necessary and that the death rate was five times as high as in spontaneous

births. In medicine, as in government, too much care is worse than none at all!

Zealous humanity has a tendency to be over-zealous, which perhaps is one of the reasons why, even taking into consideration, the full undependability of maternity or any other statistics the two countries that pride themselves upon medical skill—the United States and Scotland—lead the world in maternal mortality reports. To be sure none of the reporting countries show any improvement in maternal mortality since 1910 and some show a decadence. Needless operating, extension of control by the medical profession of unsupervised institutions and a crisp snapping up of midwives are among the findings of the joint committee on maternal mortality from the New York Obstetrical society and the New York Academy of Medicine. Mothers should be saved for their own sake first and for the conscience of the profession second whether the saving comes from asepsis or from achirurgia!

#### THE PASSING OF CHARLES DEWEY CENTER

"Charlie" Center is dead! By the death of this honored citizen the entire state of Illinois suffers deprivation even greater than that undergone by the state medical society by this deprivation of its president-elect.

Only those who knew this brave, bright spirit, this man of high efficiency, unblemished integrity and keen humanitarianism, who could do big things nobly and humbly, realize this loss to his family, to his profession, and to his country, which has need of every citizen of "Charlie" Center's capacity. He was a hero and a splendid soldier in peace as well as a splendid soldier and a hero in war. That he should have come practically unscathed through the conflict of the World War only to meet death in a highway accident—killed by an automobile while crossing a street in his home town—is one of destiny's ironical leers.

Charles Dewey Center was born July 8, 1869, on a farm four miles south of Ottawa, Ill. He died of a skull fracture in St. Mary's hospital, Quincy, on March 31, 1934, three hours after having been struck by an automobile. Between those two statements lies a lifetime of energetic, useful and honorable achievement. After attendance at community schools he went first to Knox Academy and then to Knox College at



Charles Dewey Center, M. D.  
1869—1934

Galesburg, Ill. He transferred from Knox College to Rush Medical School of the University of Chicago where he received his degree of M. D.

Accepting a call to serve as surgeon for three iron mines on the Gogebic range, he practiced there for six months before beginning his internship at the Presbyterian Hospital, Chicago. Dr. Center practiced in Chicago up until 1896 when he went to Quincy to live. That same year he married Edith Campbell, of Summerside, Prince Edward Island, who was then assistant superintendent of the Illinois Training School for Nurses. Of this marriage two sons, Donald and Archibald, were born. Mrs. Center died in 1908. Dr. Center remarried, in 1909, Louise Pecinovsky of Cresco, Iowa. Of this marriage also, two sons were born, Charles and Allen.

Dr. Center was a patriot by inheritance and by individual intent. He believed in his country and he fought for it, and he was bitterly against all the socialistic innovations that endeavor to nibble the heart out of ethical medicine. In 1898 Dr. Center joined the Illinois State Medical Society and worked for it loyally to the day of his death. He had received many honors, in addition to being the president-elect of the so-



ciety. Extramedically he began his military career in 1905 by becoming assistant surgeon, medical corps 5th Ill. Infantry. In 1910 he was made a captain and two months later a major. He saw duty at Fort Benjamin Harrison; was transferred to field and became at Lt. Col. of Infantry. He held this same position throughout the World War.

Dr. Center had a neat literary ability. In his senior medical year he won the gold medal, the Freer prize, for his thesis on medicine. His World War experiences found publication in his book, "Things Usually Left Unsaid," food for thought and a fillip of inspiration are contained in this human document treating of the World War written by Dr. Center. This book might well be called a "slice of the life of a patriot and citizen of America." For while there were undoubtedly very few men of science who laid aside the specific prerogatives of their various professions (as did Dr. Center) to go to the war as men only, the story of Dr. Center and the War—that of an individual doing his best for right, and right only—is duplicated probably by tens of thousands among men in the ranks who wore the khaki side by side with the doctor.

Dr. Center was a prolific contributor to medical and to lay periodicals and was one of the editors of the student medical magazine, "The Corpuscle," while an undergraduate at Rush. A Fellow A. M. A.; Fellow of The American College of Surgeons, President of the Adams County Medical Society in 1925; ever since his arrival at Quincy Dr. Center had been an active member on the staff of Blessing Hospital. At the time of his death he was serving as one of a board of five as an advisory board of the State Board of Health. He is survived by his four sons, one grandchild and his wife.

Details of his activities in the promotion of the Illinois State Medical Society during Dr. Center's time may be epitomized as:

The Illinois State Medical Society met in Quincy in 1902, the year the present charter was issued, and when all county medical societies were also chartered. At this meeting, the Council was organized, and the Constitution and By-laws of the Society were revised. Dr. Center was a member of important committees both in connection with these activities, and for the meeting. Following this for a period of two years,

Dr. Center was Assistant Secretary of the Illinois State Medical Society. He became a member of the Council representing the 6th District, in 1911, and served in this capacity until the beginning of the World War, but he tendered his resignation when he entered the Service. The Council refused to accept the resignation, and for one year the 6th District had no councilor. One year later, after Dr. Center again insisted that his District be entitled to Council representation, his resignation was accepted for the period of the War, and a successor was chosen. Again Dr. Center was elected as Councilor in 1927, which position he held until May, 1933, when he was unanimously elected President-Elect. During 1932 and 1933 he was Chairman of the Council, performing the many important duties of that office to the best interests of the Illinois State Medical Society in general. For months prior to his tragic death, he had been working on many plans for the interests of the Society during his tenure of office as President, which he was to assume on May 17, 1934.

A tall and handsome man he was, a man of pleasing bearing and personality—a patrician in the truest sense.

We cannot review his life without a feeling of profound respect and gratitude.

It added dignity and beauty to our common humanity.

---

### SOME ILLINOIS STATE MEDICAL SOCIETY ACTIVITIES

The purposes of the Illinois State Medical Society shall be to federate and bring into one compact organization the entire medical profession of the State of Illinois, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine.

Through the following activities the Illinois State Medical Society assumes the responsibilities placed upon it.

1. Medical Defense: For years the Illinois State Medical Society has been meeting all expenses of such litigation—that is, court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on this sort of expense of an individual case. This means that every member of the Illinois State Medical Society is defended in every effective manner possible against suits for damages for alleged malpractice, as well as attempted blackmail.

2. Medical Legislation. Many reforms are being carried on which in previous years were impossible. The Legislative Committee of the Society was successful in having passed by the State Legislature what is considered the best Medical Practice Act in the United States. The Committee whose chairman is in Springfield, is receiving financial support from the Illinois State Medical Society as necessity requires. Every year different cults and branches of so-called medicine try to have special laws passed which will license them through examinations which do not conform to the medical practice act. It is only through large membership, financial and moral support that this type of legislation can be controlled.

3. Owns and publishes the ILLINOIS MEDICAL JOURNAL containing all proceedings of the State Medical Society. In the JOURNAL also is published the papers read and the reports of all meetings of the respective county society meetings throughout the State, as well as all the news of interest to medical men in Illinois and throughout the United States. Membership in the State Medical Society entitles the physician to the JOURNAL. The Society has published its monthly JOURNAL for thirty-five years.

4. The Society compiled and has published the first volume of "A History of Medical Practice in Illinois." First Volume of 713 pages.

5. Illinois Medical Society has representation on the Advisory Committee to the Child Hygiene Division of the State Department of Public Health.

6. Council appointed a Committee on Medical Economics to make a study of medical economic problems facing the profession today.

7. The Committee on Public Policy, consisting of three members and the President and Secretary, has charge of all matters of public policy of interest to the Society and to the state at large.

8. The Committee on Medical Education and Hospitals cooperates with the state examining board in matters pertaining to medical education, makes an annual report to the House of Delegates on the existing condition of medical education in the state and cooperates with the Council on Education and Hospitals of the American Medical Association.

9. The Society through its Committee on Relations to Public Health Administration confers and advises with the Director of Public Health of the State and the General Assembly on questions involving Public Health Administration.

10. Definite assistance given county medical societies sponsoring clinics for handicapped children.

11. The Medical Society seeks enforcement of medical and health laws through the State Board of Registration and Education.

12. Offers county societies or district societies scientific programs, pathological and clinical conferences and postgraduate courses.

13. Press service for release of county medical society news used by many counties to develop interest in society activities. In addition to this press service, Educational office also offers to send out announcements to physicians of adjoining county medical societies.

14. Public Health Column is supplied to about one hundred and fifty newspapers in the state for regular use. Several foreign newspapers use the material, translating it into their own language.

15. Five popular fifteen minute health talks broadcast weekly from Chicago radio stations under auspices of the Illinois State Medical Society.

16. Package libraries compiled for use by physicians throughout the state. Material is primarily for help in preparation of popular health talks.

17. Series of health programs arranged for Y. M. C. A.'s, Mothers' Clubs, Junior Colleges in the state.

18. Health educational articles going weekly to 70 Red Cross nurses for reference note books.

19. Speakers Bureau supplies on the average of two speakers a day to lay groups in the state, covering every type of organization and reaching more than 250,000 people.



20. Ninety Public Libraries of Illinois receiving health educational material for posting on bulletin boards and filing for reference.

21. Educational Committee serves as a clearing house of information for contacts between lay groups and organized medicine. Health activities of Illinois Federation of Women's Clubs carried on with cooperation of county medical societies.

22. Advisory Committee to the Woman's Auxiliary of the Illinois State Medical Society passes on policies and plans of the Auxiliary.

23. Committee responsible for establishing contacts with American Legion units in the counties.

24. Secretaries Conference held each year for the purpose of discussing problems encountered by members of the group.

25. The Society has a membership of 7,313 in 93 County Societies in eleven Councilor Districts. The annual dues are \$7.00 with no additional assessments.

### **CODES OF MOSES AND HIPPOCRATES AS GOOD TODAY AS AT INCEPTION**

A great group of "wise-guys" are out to tell the medical profession how to run the mother science with total disregard of the fact that the medical profession has been trundling along very well since long before the Christian era.

The creed of the medical profession is the Code of Hippocrates. This code, like the Decalogue of Moses, the Lawgiver, has been functioning through the centuries with ease and probity and standing up under the test of time—be the times, good, bad, or indifferent.

Saving grace indeed is this code to its adherents. Basis of medical ethics, too, is this creed of that great Greek who wrote among other things, "Life is short but the art of healing is long."

The medical profession speaking individually may not be absolutely entitled to sit in the councils of perfection, but in the mass, thanks to this same Hippocratic code, it is free from the scandals and errors with which today the majority element of civilization's units are assailed. For our salvation to a man of us we may thank fealty to the principles of "medical ethics," only too frequently ridiculed and maligned by "big business." Medicine does not recognize the merchants' "legal distinctions" in the face of ethics.

The close shaves and the immunities of the law courts and of new corporation instruments do not breathe the same air as the Hippocratic code.

Hippocrates was a scientist, not a barterer.

Wealth may be amassed and through it fame achieved by means of deft legal chicaneries and evasions. But it is true indeed that they who "live by the sword shall die by the sword." What is won by the law may be lost by the law.

None knew this better than the great Voltaire who wrote, "I was never ruined but twice. Once when I gained a law suit and once when I lost one."

After all chicane and its works are but tinsel. Ethics alone prevail in the end, withstanding time itself.

And if ethics pay no taxes, neither do they pave the way to prison bars or harrowing publicity.

No true physician withstanding the vicissitude of social and economic warfare, clinging to the Hippocratic banner and administering with impartiality, fidelity and vigilance to rich and poor will ever regret his adherence to a code that is vital as well as highly respectable, and without which medicine in all its integrity could not achieve.

### **MICHIGAN STATE MEDICAL SOCIETY TO GET FIRST HAND INFORMATION OF SOCIALIZED MEDICINE IN ENGLAND**

The alert and progressive Michigan State Medical Society is going to secure a report on socialization of medicine in England. It is being obtained by two official observers sent there for that specific purpose by the Michigan State Medical Society.

During the last two years through its committee on survey the Michigan State Medical society conducted an intensive and extensive study on the conditions of medical practice in its own state.

After an expenditure of upwards of twelve thousand dollars by the committee on survey on medical services and health agencies of the Michigan State Medical Society a report in final form was presented to the House of Delegates of that organization in 1933.

The Michigan State Medical Society has been a pioneer among states to give the matter of survey of health agencies serious thought.

### MEDICAL ECONOMICS

The subject of remuneration for services rendered to the County, Township and City governmental units has been one of great interest to the medical profession throughout the state for the past several years. Your committee feels that it is safe in stating that there are few if any of the above mentioned governmental units, which have kept their credit up in a manner which justifies a continuation of further extension of credit.

In addition to a failure to pay promptly for the services rendered, there has been a great tendency on the part of the governmental unit to cut down the pay for services either through direct slashing of the fee rate or indirectly, by entering into a contract with an individual physician or a group of same, whereby all of the services rendered are paid for by a lump sum, so ridiculously low that when a serious attempt is made to figure out the rate per visit or operation, the result is so far below the regular fee schedule that it can not be discussed without explanation. Naturally these two conditions have made the physicians of the State dissatisfied. Those doing the work feel that they are being underpaid, but justify their continuation of the work, by the statement that if they quit there will be many others, some of whom are their worst critics, who will jump at the chance to get the work at the same price. Those not doing the work, and naturally they are in the majority, feel that the men so doing are obtaining and retaining the same by cutting fees. It is easy to understand why bitter feeling and at times words result.

In some counties the discussion has reached the stage that the doctors are banding together and refusing to continue to take the work under the old regulations and prices and making strenuous efforts to keep all members of the medical profession in line by threatened suspension from the society. There is no denying the responsibility of the medical profession to care for the sick, regardless of their ability to pay as individuals, and there is no attempt being made by the medical profession to evade this responsibility. However, there is on the other hand no good reason why the governmental unit pays the regular price, relatively promptly, for food, fuel and clothing and then refuses to do the same for

medical attention, except the old one that they have always done so and were able to get away with it.

Your committee feels that a united medical profession can meet this problem quite adequately and fairly in their local governmental units. The work for the Illinois Emergency Relief has helped some in this problem, but the fact that the care of the indigents, is and always has been distinctly and wholly a problem of county and township officials, has not eradicated it. Naturally there is the tendency of both the Illinois Emergency Relief Unit and the Township Supervisor to pass over to the other as many families as possible and to assume as little as they can. This leaves the medical profession as the buffer, and often he is in addition the "goat."

It seems that it is high time for the local county societies to agree as to the manner in which this problem must be handled. Appoint a good committee to meet with the overseer of the poor, usually the Supervisor of the township, and then convince him that medical care is as necessary as food and clothing as well as the fact that such service must be paid promptly, at the prices agreed upon. All medical men in the community must be kept in line and cooperate, some of them by discipline if necessary, and we believe that this problem can be greatly relieved in the next few months.

This may be the final article by the present Committee of the Illinois State Medical Society. They wish to thank you for your reading their articles and for the kind things that have been said about some of them. If they have made you think about the economic problems of the medical profession and methods of solving the same, we feel that our time has not been wasted. We trust that you will give to our successors the same support and interest accorded us in the past year.

E. S. HAMILTON, Chairman,  
Committee on Medical Economics.

---

### MEDICAL SOCIETY OF VIRGINIA REBUKES SOCIALIZATION

The Medical Society of Virginia gave an emphatic review recently to socialization of medicine by refusing to have anything to do with Federal Emergency Relief.



## BACK NUMBERS OF THE JOURNAL WANTED

We would like to procure the ILLINOIS MEDICAL JOURNAL for the year 1903—4 volume 5. This volume is needed to complete the library files of the American College of Surgeons.

If you have copies of the Journal for January, 1934 not required for your file, please notify or return to 185 North Wabash Avenue.

When several physicians in the same office receive the Journal and do not require several copies to file, it is suggested that the extra copies be sent to the medical libraries or colleges which do not receive it. Requests to change addresses may be directed to 185 North Wabash Avenue, Chicago.

## SUGGESTIONS FOR PREPARATION OF COPY FOR PUBLICATION SUMMARY

*Paper and Style:* All copy should be submitted on standard size paper, 8½x11 inches, and *double spaced*. Page to be blank 1½ inch top and left side; 1 inch on bottom and right side. Copy to be *original, not carbon*.

*Title and Author:* Title of paper, author's name and city in order stated at top of first page; author's street address at end of article.

*Contents of paper* should be in good form and turned over to official reporter with the distinct understanding that proof will be submitted to author for correction of *typographical errors only*. If changes from copy are desired they will be made *at author's expense*.

*Spelling:* Stedman and Dorland are recognized as "Standard."

*Bibliography:* References to literature should appear in numerical order in the text and be collected at end of article with the same numbered references. *Index Medicus style* is approved, e. g., "Ford, H. L., Deep neck infection—surgical approach, Illinois M. J., 65:117-128, 1934." (All numerals Arabic.)

*Illustrations:* All cuts required are furnished at *author's expense*. Clear photographs and wash drawings can be reproduced in halftone cuts; line drawings in zinc etchings. Minimum size halftones cost \$4 each; minimum etchings \$3. *Negatives* of radiograms, either glass or film, are not acceptable; *prints* should be submitted.

This is a resumé and summary of articles that appeared in detail in the JOURNALS for February to April. Compliance with these suggestions will save time, labor, expense and *profanity* on the part of all concerned.

## ETHICS OF COLLECTION AGENCIES

Dr. G. E. Mershon, of Mt. Carroll, has called our attention to the warning issued by the Journal A. M. A. in the issue of March 31, against the business practices of the Birdsell Loan and Finance Company of Evanston. This article covers the subject so thoroughly that we omit the additional material compiled by Dr. Mershon from the report of Chicago Better Business Bureau and the experience of local Doctors with the Collection Company. We quote the A. M. A. article as follows:

### ANOTHER COLLECTION COMPANY EXPLOITS PHYSICIANS

#### BIRDELL LOAN AND FINANCE CO., INC., FOOLS PROFESSIONAL MEN

The Birdsell Loan and Finance Co., Inc., of Evanston, Ill., is engaged in the general collection business. It is reported that Mr. A. E. Birdsell, president of the company, stated that the company had also been engaged in financing past due accounts. The company was apparently chartered in December, 1929, with an authorized capitalization of \$20,000, consisting of 1,200 shares of stock with no par value. We are informed that it began operation with offices in Jacksonville, Ill., where it was located for about two years, then moved to Rock Island, Ill., where it was located for about two years, and that the offices were finally moved to Evanston in September, 1933.

The contract provisions of this company contain many clauses against which physicians have been warned in the columns of THE JOURNAL and of *The Bulletin*. The physician who places his accounts in the hands of the Birdsell Loan and Finance Co., Inc., *assigns and sells his accounts to the company, subject to the company's discretion in settlement*; he authorizes the company to take notes from debtors payable to the company and he further agrees "to receipt in full any account on which the company accepts note in lieu of cash after commissions have been deducted" and he has received the amount due him on the account. *The physician constitutes, empowers and authorizes the company his sole agent for the purpose of negotiating any or all settlements of accounts listed with the company, and he also constitutes, empowers and authorizes the company his sole agent and attorneys in fact for the purpose of endorsing all papers of any kind or nature that may come into the company's possession*. Furthermore, the physician agrees not to accept settlements or

payments on any of the accounts listed with the company without forwarding *the full amount* of said payment to the company the day settlement or payment is made.

These citations to the contract provisions to which the physician subscribes when placing accounts with the Birdsell Loan and Finance Co., Inc., are sufficient to show that the contract is drawn largely in favor of the company and completely removes from the control of the physician the methods to be used in making collections. Moreover, it places the company in complete control of all moneys and papers.

Other organizations besides the American Medical Association have received numerous complaints from clients who allege that they cannot obtain the moneys collected for them by this company. In this connection a printed article which appeared in "The Report of the Chicago Better Business Bureau," Feb. 22, 1934, is of interest.

---

### THE EIGHTY-FOURTH ANNUAL MEETING

The Official Program for the eighty-fourth Annual Meeting of the Illinois State Medical Society is printed in this issue of the ILLINOIS MEDICAL JOURNAL. It is hoped that every member of the Society will look this program over carefully, note the excellent arrangements for a most successful meeting, then plan to be present.

The Committee on Arrangements with its many subcommittees, the Section Officers, who have carefully selected those interesting papers to be presented before each Section, the General Officers of the Illinois State Medical Society who have selected the Orators in Medicine and Surgery, and have arranged many other things in connection with the meeting, and the Ladies' Entertainment Committee, have all worked for a common purpose, namely, making the 1934 Annual Meeting an outstanding one of all times.

There will be more scientific exhibits this year than at previous meetings, and it is hoped that all members and guests will look them over carefully. Another new venture this year, is the Fracture Demonstrations which have been carefully arranged so that the latest approved methods of treatment of the usual types of fractures will be explained in detail. A special room adjoining the Exhibition Hall has been given over for these interesting demonstrations.

The Secretaries' Conference has an unusually interesting program this year, which will begin promptly at 10:00 a. m. Tuesday, May 15. Every

member of the County Medical Societies, is a potential officer, and should arrange to attend this session.

The Pediatricians have arranged a special meeting which will be held on Tuesday morning, and the program for this meeting appears in the Official Program. Every physician interested in the care of infants and children will be interested in this special program. In addition to the Pediatrics subjects to be discussed at this session, there will be papers on Pediatrics given before each of the Sections, which are listed separately with the Pediatrics Program, and which will appeal to many members and guests at the meeting.

On Tuesday evening, May 16, at 9:00 o'clock, the Sangamon County Medical Society will be host to all members and guests, at the annual "Stag." We had hoped to give some information concerning the Stag in this article, but the Committee handling this affair merely states that it will be interesting, entertaining, appealing, and yet, not offensive, and they are not putting out any additional information at this time.

The President's Dinner will be held at the Abraham Lincoln Hotel at 7:00 p. m., Wednesday, May 16, and the entire evening is given over to the honoring of the President of the Illinois State Medical Society. There will be no speeches in connection with the dinner, and the Past-Presidents of the Society will be our guests at the dinner. Following the dinner, the President's Dance will be the next order of entertainment, and those not desiring to dance may play bridge.

The Oration in Medicine will be given on Tuesday afternoon, May 15, immediately following the opening meeting. The speaker is Dr. Walter L. Bierring, President-Elect of the American Medical Association, Des Moines, Ia.

The Oration in Surgery will be given at 11:00 a. m. Wednesday, May 16, by Frederic J. Cotton, of Boston. The subjects of these orations have been carefully selected, and will be of interest to all practitioners of Medicine, regardless of their individual inclinations.

Those who have been responsible for the arranging of the 1934 Annual Meeting Program, and for other arrangements, are proud of their work, and they have every reason to believe that the Eighty-Fourth Annual Meeting will be one



of the most interesting, and best attended meetings the Society has yet conducted.

### SPRINGFIELD

Springfield, Illinois, "The Home of Abraham Lincoln" and the capital of Illinois, is centrally located in the state 185 miles southwest of Chicago and 99 miles northeast of St. Louis. It is located on the Sangamon River. It is served by the Baltimore & Ohio-Alton, the Chicago & Illinois Midland, the Illinois Central, the Wabash and the Chicago, Springfield & St. Louis steam railroads and the Illinois Terminal System electric interurban lines.

The population is 71,864 (1930) within its city limits, with over 10,000 additional inhabitants in the contiguous territory.

Springfield is a well planned city, situated in the midst of the rolling Illinois prairies. Just being completed, as a water supply and recreational center, is one of the largest artificial lakes in the state, covering an extent of 15 miles in length, with a storage capacity of 21 billion, 400 million gallons of water. This project is financed through public bond issues to be retired principally from water rents. Completion of many phases of the project were hastened by securing of Federal assistance through Civil and Public Works Administration. All work incident to the impounding of water has been completed and the basin is now flooding. It is expected that the lake will be filled during the present season.

The State Capitol, completed in 1887 at a cost of \$4,000,000 is Springfield's most prominent building. It is constructed of gray limestone and granite in classic style of architecture and is surmounted by a massive dome 361 feet high.

Other fine public buildings are the Illinois Supreme Court Building, a new \$2,000,000 Federal building, County Court House, City Hall, Elks' Home, Knights of Columbus Building, the Lincoln Library and the Illinois Centennial Building, commemorating the one-hundredth anniversary of the admission of Illinois as a state, costing \$3,000,000. This building contains, among other things, a splendid museum of natural history and a fine collection of papers and relics connected with the life of Lincoln.

The Illinois State Fair, the largest and most successful State Fair conducted in the country,

is held each year under state auspices in Springfield.

Springfield is the seat of the Illinois Supreme Court and the United States District Court.

Springfield has two large hospitals, Springfield Hospital and St. John's, two sanitariums and homes for the aged and for children.

The city has 650 acres in parks, boulevards and playgrounds. The largest parks are Washington, Lincoln, Bunn, Bergen, Pasfield and Carpenter, in which are provided athletic fields, tennis courts, swimming pools and three golf courses.

The connection of Lincoln with the history of Springfield started about 1837 when he removed to this city from New Salem and established a law partnership with John T. Stuart. Lincoln maintained his connections with Springfield until the time of his death at the close of the Civil War and the only home which he ever owned is in this city, located at Eighth and Jackson Streets.

Also connected with the early history of Springfield was General U. S. Grant who began his military career in the Civil War by being made Colonel of the 21st Illinois Infantry in Springfield. Stephen A. Douglas was a familiar figure in early Springfield.

In Oak Ridge Cemetery is a splendid gray granite monument erected to the memory of Abraham Lincoln. The lower part of this is a mausoleum containing the remains of the Great Emancipator and members of his family. In the center rises a shaft 121 feet high. At its base in front is a statue of Lincoln, and at the four corners are groups of statuary symbolizing the cavalry, navy, artillery and infantry of the United States. This monument, which originally cost about \$350,000 contributed by the people from every part of the United States, was designed by the sculptor Larkin G. Mead and was dedicated in 1874.

The Lincoln Monument was remodeled by the state of Illinois, during 1930-31, at an expense of over \$125,000. While its outward appearance was not changed, it was completely rebuilt, and extensive interior changes were made. It was dedicated with appropriate ceremonies by President Herbert Hoover, June 17, 1931.

Lincoln's old home is owned by the State and is open to the public. Each year hundreds of thousands of people, coming from every state in

the Union and from every civilized nation on earth, visit the Lincoln Home, the Lincoln Tomb and other points connected with his associations here.

The present Sangamon County Court House was formerly the Capitol Building of the State, being the second building erected for that purpose. In it Lincoln made a number of his noted addresses, including his historic "House Divided Against Itself" speech.

Springfield, settled in 1819, was organized and made the county seat in 1823, and was incorporated as a town and made the state capital in 1837. It became a city in 1840. The commission plan of government was adopted in 1911.

The fact that Springfield is situated near the center of population of the United States in the midst of the greatest corn-growing belt in the world, with fine transportation facilities and an abundance of coal supplies, is causing a steady growth in population and in industrial importance.

### MEN'S GOLF

There will be a golf tournament with a Banker's handicap system played on Tuesday morning, May 15, the opening day of the State Medical Meeting at Springfield.

Play will be over the excellent 18 hole course of the Illini Country Club and suitable prizes will be awarded. All contestants will be on an equal basis and we urge medical golf enthusiasts to form foursomes or twosomes. We will form them for you if you prefer.

Send names to Dr. Fred P. Cowdin, Chairman Golf Committee, or write to him for any information.

Luncheon may be had at noon at the Club if you so desire.

DR. FRED P. COWDIN,

3201½ So. 5th Street, Springfield, Ill.

### IMMUNIZATION WITH BACILLUS PERTUSSIS VACCINE

Louis W. Sauer, Evanston, Ill. (*Journal A. M. A.*, Nov. 4, 1933), used *Bacillus pertussis* vaccine (1 cc. = 10 billion bacilli), made from recently isolated, strongly hemolytic strains, grown on Bordet medium made with freshly defibrinated human blood, as an immunizing agent in 394 selected young nonimmune subjects. The total of from 7 to 8 cc. (70 to 80 billion bacilli) is divided into three weekly (bilateral) injections of 1,

1.5 and 1.5 cc., respectively. In the course of five years the author's control series of thirty-one children in twenty-four of the families contracted unquestionable whooping cough. Twenty-nine of the injected children were exposed throughout the incubation, catarrhal and paroxysmal stages, but none contracted the disease. Not one of 162 injected children accidentally exposed has had a cough that in any way resembled pertussis. Active immunity is completed in four months and lasts for years. Infants withstand the injections remarkably well. The best age for immunization is the second half year of life.

### SURGICAL CONSIDERATIONS OF CARCINOMATOUS METASTASES TO THE BRAIN

Eric Oldberg, Chicago (*Journal A. M. A.*, Nov. 4, 1933), reports three cases of carcinomatous metastases to the brain in which the periods of survival following intracranial operation are longer than in previously reported cases. These periods of survival compare favorably with the results obtained from operations on relatively benign primary tumors of the brain. One case of suspected carcinomatous metastasis to the cervical cord is reported, in which operation disclosed and made possible the removal of a meningioma, with recovery of the patient. The author suggests that operation on suspected malignant metastases to the brain, provided the general condition of the patient warrants it and that the cerebral lesion is apparently single, be undertaken for the following reasons: 1. It may be possible to extirpate the metastasis, with great relief to the patient and with prolongation of his life expectancy. 2. If the lesion cannot be removed, at least palliative decompression can be performed for the relief of distress. 3. Occasionally a gratifying surprise may be encountered in the form of a benign tumor, and no person should be refused this possibility.

### CARE OF MILK IN HOME

1. Have a special place for the milk to be left, preferably in a box where it is protected from cats, dogs, flies and the sun.
2. Take in the milk as soon as possible after it is delivered and place it on ice at once.
3. Do not remove the bottle from the refrigerator or the milk from the bottle until it is needed.
4. With a clean cloth wipe the mouth of the bottle or wash it before pouring the milk.
5. Be sure all receptacles for milk are clean.
6. Pour from the bottle only such milk as is needed for immediate use and return what is left to the ice at once.
7. Keep the bottles covered in the refrigerator and do not put them near fish, onions or other things with an odor. Milk readily absorbs flavors, and the taste is spoiled.
8. Under no conditions give to children milk that is old or slightly turned. Sour milk can be used easily in cooking.
9. Wash the bottles thoroughly after they are used. Return them promptly to the milkman.

—Bureau of Health Bulletin of Allentown, Pa.



ILLINOIS STATE MEDICAL SOCIETY  
EIGHTY-FOURTH ANNUAL MEETING

SPRINGFIELD, ILLINOIS

May 15, 16, 17, 1934

OFFICERS

Philip H. Kreuscher, *President*.....Chicago  
\*Charles D. Center, *President-Elect*.....Quincy  
Charles G. Farnum, *First Vice-President*.Peoria  
H. V. Gould, *Second Vice-President*....Chicago  
A. J. Markley, *Treasurer*.....Belvidere  
Harold M. Camp, *Secretary*.....Monmouth  
\*Deceased.

THE COUNCIL

E. H. Weld, 1st District.....Rockford  
Edgar C. Cook, 2nd District.....Mendota  
J. S. Nagel, 3rd District.....Chicago  
R. K. Packard, 3rd District.....Chicago  
L. E. Day, 3rd District.....Chicago  
E. P. Coleman, 4th District.....Canton  
S. E. Munson, 5th District.....Springfield  
T. B. Knox, 6th District.....Quincy  
I. H. Neece, 7th District.....Decatur  
C. E. Wilkinson, 8th District.....Danville  
Andy Hall, 9th District.....Mt. Vernon  
J. S. Templeton, 10th District...Pinckneyville  
E. S. Hamilton, 11th District.....Kankakee  
R. K. Packard, Chairman of the Council.

ILLINOIS MEDICAL JOURNAL

Chas. J. Whalen, *Editor*.....Chicago  
Henry G. Ohls, *Managing Editor*.....Chicago  
H. J. Stewart, *Secretary, Publication Committee*.....Chicago  
Irving S. Cutter, *Permanent Historian*..Chicago

STANDING COMMITTEES

PUBLIC POLICY

W. S. Bougher, *Chairman*.....Chicago  
Chas. J. Drucek.....Chicago  
George Mitchell.....Peoria

LEGISLATIVE

John R. Neal, *Chairman*.....Springfield  
Thomas P. Foley.....Chicago  
Edward Bowe.....Jacksonville

MEDICO-LEGAL

J. R. Ballinger, *Chairman*.....Chicago  
R. O. Hawthorne, *Secretary*.....Monticello  
C. U. Collins.....Peoria  
Walter Wilhelmj.....East St. Louis

Oscar Hawkinson.....Chicago  
A. H. Geiger.....Chicago  
RELATIONS TO PUBLIC HEALTH ADMINISTRATION  
F. F. Maple, *Chairman*.....Chicago  
Thomas Meany.....Chicago  
Frank Heda.....Chicago  
Ralph Hinton.....Elgin  
Lee Frech.....Decatur

MEDICAL EDUCATION AND HOSPITALS

J. P. Simonds, *Chairman*.....Chicago  
W. R. Marshall.....Clinton  
H. O. Munson.....Rushville

COUNCIL COMMITTEES

EDUCATIONAL COMMITTEE

R. R. Ferguson, *Chairman*.....Chicago  
William D. Chapman.....Silvis  
Chauncey C. Maher.....Chicago  
O. C. Stanley.....Decatur  
G. C. Otrich.....Belleville  
Jean McArthur, *Secretary*.....Chicago

SCIENTIFIC SERVICE COMMITTEE

Frank L. Brown, *Chairman*.....Chicago  
Chas. D. Center.....Quincy  
Jas. T. Gregory.....Chicago  
Percy Hopkins.....Chicago

MEDICAL ECONOMICS COMMITTEE

E. S. Hamilton, *Chairman*.....Kankakee  
I. H. Neece.....Decatur  
E. H. Ochsner.....Chicago  
C. E. Wilkinson.....Danville

VETERANS' SERVICE COMMITTEE

F. O. Fredrickson, *Chairman*.....Chicago  
H. J. Way.....Chicago  
E. P. Coleman.....Canton  
F. G. Norbury.....Jacksonville  
T. B. Williamson.....Mt. Vernon  
J. S. Nagel.....Chicago

ADVISORY COMMITTEE TO ILLINOIS EMERGENCY

RELIEF COMMISSION

John R. Neal, *Chairman*.....Springfield  
Harold M. Camp, *Secretary*.....Monmouth  
Philip H. Kreuscher.....Chicago  
S. E. Munson.....Springfield  
E. C. Cook.....Mendota  
Chas. H. Phifer.....Chicago  
Julius H. Hess.....Chicago  
R. K. Packard (ex-officio).....Chicago

# DELEGATES AND ALTERNATES TO AMERICAN MEDICAL ASSOCIATION

## DELEGATES

C. J. Whalen.....	1934
Wm. D. Chapman.....	1934
J. J. Pflock .....	1934
G. Henry Mundt.....	1934
G. C. Otrich .....	1934
R. L. Green.....	1935
C. S. Skaggs.....	1935
Mather Pfeiffenberger .....	1935
C. E. Humiston.....	1935
C. B. Reed.....	1935

## ALTERNATES

M. I. Kaplan.....	1934
C. S. Nelson.....	1934
N. S. Davis, III.....	1934
F. P. Hammond.....	1934
R. J. Coultas.....	1934
E. P. Coleman.....	1935
E. H. Weld.....	1935
Andy Hall .....	1935
F. L. Brown.....	1935
G. Kaufman .....	1935

## SECTION OFFICERS

### SECTION ON MEDICINE

R. F. Herndon, <i>Chairman</i> .....	Springfield
Don C. Sutton, <i>Secretary</i> .....	Chicago

### SECTION ON SURGERY

George W. Post, <i>Chairman</i> .....	Chicago
B. V. McClanahan, <i>Secretary</i> .....	Galesburg

### SECTION ON EYE, EAR, NOSE AND THROAT

George S. Duntley, <i>Chairman</i> .....	Macomb
O. B. Nugent, <i>Secretary</i> .....	Chicago

### SECTION ON PUBLIC HEALTH AND HYGIENE

J. Howard Beard, <i>Chairman</i> .....	Urbana
Lloyd Arnold, <i>Secretary</i> .....	Chicago

### SECTION ON RADIOLOGY

Robert F. Arens, <i>Chairman</i> .....	Chicago
F. Flynn, <i>Secretary</i> .....	Decatur

### SECRETARIES' CONFERENCE

H. A. Felts, <i>President</i> .....	Marion
Elizabeth R. Miner, <i>Vice-President</i> ....	Macomb
C. D. Snively, <i>Secretary</i> .....	Ipava

### COMMITTEE ON ARRANGEMENTS

A. E. Walters, <i>General Chairman</i> ....	Springfield
Homer P. McNamara, <i>Secretary</i> ....	Springfield
Harry Otten .....	Springfield

## SPECIAL COMMITTEES

### RECEPTION

Don Deal	J. G. Meyer
George Stericker, Jr.	I. W. Metz
Henry Lutyens	T. F. Hill
A. W. Barker	D. G. Lockie

### ENTERTAINMENT

A. E. Walters	Harry Otten	H. P. McNamara
---------------	-------------	----------------

### INFORMATION

Harry Otten	David McCarthy
Harry H. Southwick	R. T. Clark
H. T. Morrison	George J. Mautz

### PRESIDENT'S DINNER

John R. Neal	S. E. Munson	J. E. Reisch
--------------	--------------	--------------

### PUBLICITY

John J. McShane	Geo. M. Harper
R. C. Cook	A. L. Stuttle

### MEETING PLACE

O. L. Zelle	W. P. Armstrong, Jr.
	W. P. Levis

### SURGERY

Jas. A. Day	Chas. L. Patton
	C. W. Compton

### MEDICINE

N. Rosen	E. K. Lockwood
C. V. McMeen	T. D. Master
B. J. Kuly	E. F. Pearson
	Geo. H. Vernon

### EYE, EAR, NOSE AND THROAT

E. E. Hagler	C. P. Colby
J. F. Deal	A. L. Hagler
E. T. Blair	F. B. Jones
R. I. Bullard	E. A. Morris

### PUBLIC HEALTH AND HYGIENE

H. S. Houston	G. Koehler
R. K. Campbell	Grace S. Wightman
	R. H. Woodruff

### RADIOLOGY

Walter Bain	F. S. O'Hara
	L. M. Hilt

### FINANCE

Homer P. McNamara	J. R. Neal
	A. E. Walters

### REGISTRATION

P. L. Taylor	C. B. Stuart
N. H. Chestnut	B. W. Hole
	E. S. Spindel



## TRANSPORTATION

C. W. Milligan                      Robert Flentje  
J. C. Walters                      J. R. Irwin

## EXHIBITS

A. C. Baxter                      O. H. Diechmann  
E. L. Bernard                      H. L. Metcalf

## CONTACT

C. C. Copelan                      Chas. F. Harman  
Corwin Mayes                      J. M. Salzman

## LADIES' ENTERTAINMENT

O. F. Maxon                      Elizabeth B. Ball  
H. H. Cole                      Clara F. Holmburg

## ALUMNI

Corwin Mayes                      L. D. Wright  
J. A. DeFreitas                      M. M. Bradley

## ADVISORY

C. A. Frazee                      W. P. Armstrong, Sr.  
Geo. Stericker, Sr.                      W. A. Young

## FRATERNITY

D. I. Martin                      Geo. Harvey  
David E. Barker                      M. B. Jelliffe

## GOLF

Fred Cowdin                      R. I. Bullard  
D. C. Ditmore

## LADIES' GOLF

R. F. Herndon                      Frank A. Evans  
Franklin Maurer

## VETERANS' DINNER

R. D. Dugan                      J. C. Jackman  
H. B. Henkel                      S. R. Magill  
Stuart Broadwell                      H. H. Tuttle

## COLORED RECEPTION

Robert H. Beverly                      S. A. Ware

## PEDIATRICS

O. E. Ehrhardt                      H. C. Blankenmeyer

## INDUSTRIAL SURGERY

G. W. Staben                      J. J. Donovan  
D. J. Lewis                      Henry Aschauer

## SECRETARIES' CONFERENCE

H. P. McNamara                      W. W. Van Wormer  
E. A. Walsh

## CLINICS

J. A. Lindquist                      G. C. Hunt  
A. G. Hofferkamp                      W. C. Martini

## ATTENDANCE

J. E. Reisch                      Thomas W. Priest  
J. C. McMillan                      A. R. Trapp  
Chas. McLaughlin                      M. E. Rolens  
Robert E. Smith                      H. W. Sears  
L. E. Orr                      J. M. Shearl  
George T. Palmer                      C. W. Yeck

## WOMAN'S AUXILIARY TO THE ILLINOIS STATE

## MEDICAL SOCIETY

## OFFICERS

Mrs. Solomon Jones, *President*.....Danville  
Mrs. Lucius Cole, *President-Elect*..River Forest  
Mrs. H. I. Conn, *1st Vice-President*...Newman  
Mrs. S. M. Goldberger, *2nd Vice-President*  
..... Chicago  
Mrs. A. H. Baugher, *3rd Vice-President*.Chicago  
Mrs. E. B. Coolley, *Corresponding Secretary*  
.....Danville  
Mrs. John A. Wolfer, *Recording Secretary*  
.....Chicago  
Mrs. F. P. Hammond, *Treasurer*.....Chicago

## COUNCILORS

Mrs. D. J. Evans, *1st District*.....Aurora  
Mrs. A. B. Middleton, *2nd District*....Pontiac  
Mrs. N. M. Percy, *3rd District*.....Chicago  
Mrs. G. H. Mundt, *3rd District*.....Chicago  
Mrs. A. H. Brumback, *3rd District*....Chicago  
Mrs. C. H. Anderson, *4th District*..East Moline  
Mrs. H. B. Henkel, *5th District*....Springfield  
Mrs. Chas. D. Center, *6th District*.....Quincy  
Mrs. John E. Black, *7th District*....Centralia  
Mrs. E. S. Allen, *8th District*.....Arcola  
Mrs. E. W. Burroughs, *9th District*..Harrisburg  
Mrs. I. L. Foulon, *10th District*..East St. Louis  
Mrs. E. R. Steen, *11th District*.....Joliet

## CHAIRMEN OF STANDING COMMITTEES

Organization—Mrs. Philip H. Kreuscher, Chicago.  
Press and Publicity—Mrs. J. P. Simonds, Chicago.  
Legislative—Mrs. Wm. D. Chapman, Silvis.  
Printing—Mrs. John R. Neal, Springfield.  
Convention—Mrs. H. B. Henkel, Springfield.  
Program—Mrs. E. P. Sloan, Bloomington.  
Revision—Mrs. E. W. Mueller, Chicago.  
Public Relations—Mrs. W. R. Cubbins, Chicago.  
Credentials and Registration—Mrs. Imas Rice, Aurora.

Hygeia—Mrs. H. H. Hurd, East St. Louis.  
 Finance—Mrs. W. R. Rhodes, Toledo.  
 Archives—Mrs. Michael L. Mason, Chicago.  
 Hostess—Mrs. E. P. Sloan, Bloomington.

ADVISORY COMMITTEE FROM ILLINOIS STATE  
 MEDICAL SOCIETY

R. R. Ferguson, *Chairman*.....Chicago  
 Chas. J. Whalen.....Chicago  
 Chas. D. Center.....Quincy  
 John R. Neal.....Springfield  
 Harold M. Camp.....Monmouth

VETERANS' SERVICE COMMITTEE DINNER

The annual dinner and meeting of the Veterans' Service Committee will be held on Tuesday evening, May 15, at 6:00 o'clock, at the Leland Hotel. Every advisory member of this Committee from all county medical societies, all medical veterans and other members of the Society are cordially invited to attend this dinner and enjoy the program following the dinner service.

The program will be in charge of F. O. Fredrickson, Chairman of the Veterans' Service Committee.

PROGRAM

1. "Why the Medical Commission?"  
 T. B. Williamson, Department Surgeon, Department of Illinois, American Legion, Mt. Vernon.
2. "The American Medical Association—Its Duty to Its Members and to the Nation's Veterans of the World War."  
 F. S. Crockett, Member of the Committee on Legislation and Veterans' Affairs, American Medical Association, LaFayette, Indiana. (By invitation.)
3. "The Legion Program as It Affects Organized Medicine."

Hon. Edward Hayes, National Commander of the American Legion, Decatur. (By invitation.)

It is the earnest desire of the Veterans' Service Committee to make this the best attended and most interesting of all meetings held so far, by the Committee. The place, Leland Hotel, the time, 6:00 p. m. Tuesday evening, May 15, 1934. Please plan to be among those present.

ALUMNI AND FRATERNITY DINNER

The Annual Alumni and Fraternity dinner this year is combined with the Veterans' Dinner to be held on Tuesday evening, May 15th, at 6:00 o'clock at the Leland Hotel. The committees have arranged to care for these groups at one dinner, so that a good time may be had by all.

The speakers on the program scheduled to appear before the Veterans' Service Committee after this dinner will be found under Veterans' Dinner, and will be of general interest to these combined groups. Tickets may be procured from members of the committee, or from the Registration desk.

PRESIDENT'S DINNER

*Wednesday Evening, May 16, 1934*

According to the established custom of years. Wednesday evening is devoted to the honoring of our President, Philip H. Kreuscher. The President's Dinner will be held at the Abraham Lincoln Hotel, at 6:30 p. m. Dr. John R. Neal, Immediate Past President, will act as Toastmaster.

All Past Presidents of the Illinois State Medical Society are honored guests of the Society at this function. They will not be called on for speeches, and the pleasures of the evening will not be marred by long speeches from anyone.

Immediately following the Dinner the President's Ball, informal, will be held with a real orchestra furnishing the music. Those not desiring to dance, will find plenty of bridge tables available for the lovers of that game, with suitable prizes awarded to the winners.

It is hoped that every member in attendance at the Annual Meeting will attend the President's Dinner. Tickets at a reasonable rate may be procured from the Registration Desk, or from members of the local Committee.

WOMAN'S AUXILIARY AND ALL VISITING LADIES  
*General Committee*

Mrs. H. B. Henkel, *Chairman*.....Springfield  
 Mrs. A. H. Brumback.....Chicago  
 Mrs. A. H. Baugher.....Chicago  
 Mrs. John R. Neal.....Springfield

*Special Committees*

Ladies' Entertainment Committee.....  
 .....Mrs. M. B. Jelliffe, Chairman



Registration Committee .....  
 .....Mrs. E. E. Hagler, Chairman  
 Information Committee .....  
 .....Mrs. I. W. Metz, Chairman  
 Golf Committee .....  
 .....Mrs. Frank N. Evans, Chairman  
 Tuesday Luncheon .....  
 .....Mrs. John Deal, Chairman  
 Governor's Mansion Tea.....  
 .....Mrs. O. F. Maxon, Chairman  
 Tuesday Evening Dinner.....  
 .....Mrs. H. H. Cole, Chairman  
 Tuesday Evening Bridge.....  
 .....Mrs. D. J. Lewis, Chairman  
 Wednesday Breakfast Meeting.....  
 .....Mrs. H. B. Henkel, Chairman  
 President's Luncheon .....  
 .....Mrs. C. V. McMeen, Chairman  
 Drive to Old Salem.....  
 .....Mrs. H. H. Southwick, Chairman

Registration, Auxiliary Members and All Visiting Ladies, Knight's of Columbus Building

---

PROGRAM

*Tuesday, May 15, 1934*

9:00—Registration.  
 10:00—Board Meeting — Abraham Lincoln Hotel.  
 12:00—Delegates' Luncheon—For all members and visiting ladies. Mrs. Solomon Jones presiding.  
 1:30—Business Session — Abraham Lincoln Hotel.  
 3:30—Tea—Governor's Mansion — For members and visiting ladies.  
 Music—Mrs. A. E. Dale, Danville, and Mrs. D. J. Evans, Aurora.  
 7:00—Dinner and Bridge — Abraham Lincoln Hotel. Mrs. Solomon Jones presiding.  
 1. Introductory Address — R. R. Ferguson, Chairman, Auxiliary Advisory Committee, Chicago.  
 2. Address—Philip H. Kreuscher, President, Illinois State Medical Society, Chicago.

---

*Wednesday, May 16, 1934*

8:00—Breakfast—Abraham Lincoln Hotel.  
 Downstate Board Members hostesses to Chicago State Board Members.

9:00—Business Session—Abraham Lincoln Hotel  
 12:00—President's Luncheon. Mrs. Lucius Cole presiding.  
 1. Address—Walter L. Bierring, President-Elect, American Medical Association, Des Moines, Iowa.  
 2. President's Farewell Message — Mrs. Solomon Jones.  
 3. Introduction of newly elected Officers and Councilors of State Board, Woman's Auxiliary to the Illinois State Medical Society.  
 2:00—County Presidents' Conference with the New President—Mrs. Lucius Cole.  
 3:00—Drive to Old Salem, for all members and visiting ladies.  
 7:00—President's Dinner, honoring Philip H. Kreuscher, President, Illinois State Medical Society — Abraham Lincoln Hotel.

---

*Thursday, May 17, 1934*

9:00—State Board Meeting.

---

FRACTURE DEMONSTRATIONS

*Tuesday, May 15, 1934*

8:30—(a) Colles' fracture.  
 (b) Fractures of tibia and fibula not involving joints.—G. W. Staben, Springfield.  
 9:00—Fractures of the pelvis.—F. N. Cloyd, Danville.  
 9:30—(a) Intertrochanteric fractures of the femur.  
 (b) Nonunion of fractures.—Rudolph J. Mroz, Rockford.  
 10:00—Fractures about the ankle.—George L. Apfelbach, Chicago.  
 10:30—Fractures of the shaft of the humerus.—James H. Finch, Champaign.  
 11:00—(a) Supracondylar fractures of the humerus.  
 (b) Fractures of fingers.—Sidney H. Easton, Peoria.  
 11:30—Fractures of carpal bones.—Arthur H. Conley, Chicago.  
 12:00—(a) Fractures of the upper end of the humerus.  
 (b) Fractures of the elbow.—Paul B. Magnuson, Chicago.

- 5:00—Fractures of the hip.—Philip H. Kreuscher, Chicago.  
 5:30—Fractures of the shaft of the femur.—James J. Callahan, Chicago.

—  
*Wednesday, May 16, 1934*

- 8:30—Compression fractures of the spine.—Carlo S. Seuderi, Chicago.  
 5:00—(a) Skull fractures and associated injuries.  
 (b) Fractures of cervical vertebrae.—Harry E. Moek, Chicago.  
 5:30—Fractures into the knee joint.—William R. Cubbins, Chicago.

—  
*Thursday, May 17, 1934*

- 8:00—Fractures of both bones of forearm in children.—Daniel H. Levinthal, Chicago.  
 Shadow boxes to show interesting fracture films and lanterns for showing pictures will be available for each demonstration.

PEDIATRICIANS' MEETING

Maurice L. Blatt, *Chairman*.....Chicago  
 W. L. Crawford, *Vice-Chairman*.....Rockford  
 John Vonachen, *Secretary*.....Peoria  
*Tuesday Morning, May 15, 1934*

- 9:00—"Diagnosis and Treatment of Infection of the Uro-Genital Tract in Childhood."  
 —Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago.

Discussion opened by Arthur Sprenger, Peoria.

- 9:30—"Fundamentals of Infant Feeding."  
 Clifford Grulee, Professor of Diseases of Children, Rush Medical College, Chicago.

Discussion opened by Ray Armstrong, Champaign.

- 10:00—"Diagnosis and Treatment of Rheumatic Infections in Childhood."—Robert Black, Professor of Diseases of Children, Loyola University, Chicago.

Discussion opened by Orville Barbour, Peoria.

- 10:30—"Care and Feeding of the Premature Infant."—Julius H. Hess, Professor of Diseases of Children, University of Illinois, Chicago.

Discussion opened by Gerald Cline, Bloomington.

- 11:00—"The Common Colds in Infancy and Childhood."—Joseph Brennemann, Professor of Diseases of Children, University of Chicago, Chicago.

Discussion opened by A. E. Cohen, Peoria.

—  
 PEDIATRICS PAPERS IN SCIENTIFIC SECTIONS

—  
*Tuesday, May 15, 4:00 P. M.*

SECTION ON SURGERY

Dr. Fremont A. Chandler of Chicago, Illinois.  
 Subject—"Rehabilitation of the Crippled Child from the Standpoint of Orthopedic Surgery."

Discussion by Dr. Sidney Easton of Peoria, Illinois, and Dr. Rudolph Mroz of Rockford, Illinois.

—  
*Wednesday, May 16, 9:30 A. M.*

SECTION ON MEDICINE

Dr. W. L. Crawford of Rockford, Illinois.  
 Subject—"A Survey of Allergic Diseases in Childhood."

Discussion by Dr. Leon Unger and Dr. I. H. Tumpeer of Chicago.

—  
*Wednesday, May 16, 9:30 A. M.*

SECTION ON RADIOLOGY

Dr. John R. Vonachen of Peoria, Illinois.  
 Subject—"Clinical Values of X-ray of the Urological Tract of Childhood."

Discussion by Dr. E. L. Jenkinson of Chicago, Dr. L. M. Hilt of Springfield and Dr. Robert Cummings of Chicago.

—  
*Wednesday, May 16, 3:20 P. M.*

SECTION ON PUBLIC HEALTH AND HYGIENE

Dr. King Woodward of Rockford, Illinois.  
 Subject—"Diphtheria Immunization in Private Practice."

Discussion by Dr. Archibald Hoyne of Chicago and Dr. Clarence Earle of Des Plaines, Illinois.

—  
*Wednesday, May 16, 5:10 P. M.*

SECTION ON MEDICINE

Dr. Walter M. Whittaker of Quincy, Illinois.  
 Subject—"Membranous Non-Diphtheritic Infections of the Lower Respiratory Tract in Children."

Discussion by Dr. Walter Stevenson of Quincy, Illinois.

SECRETARIES' CONFERENCE

H. A. Felts, *President*.....Marion  
 Elizabeth R. Miner, *Vice-President*....Macomb  
 C. D. Snively, *Secretary*.....Ipava



*Tuesday Morning, May 15, 1934*

10:00—"Heart Disease."—Frank J. Jirka, *Director*, Illinois Department of Public Health, Springfield.

The problem of heart disease is approached from the statistical standpoint, which shows that over one-fifth of all mortality in Illinois is now attributed to heart impairment and that the trend is still sharply upward. Data are analyzed so as to illustrate the character of fatal impairments and the etiology of causes as well as the ages in which increases and decrease in mortality have taken place. A program for controlling heart disease, especially among people under sixty years of age, is suggested. Evidence that the problem of heart impairment may be expected to involve a growing and perhaps the biggest single field in the practice of medicine is presented. The paper is illustrated with lantern slides.

Discussion opened by Andy Hall, *Councilor* 9th District, Mount Vernon.

10:30—"Indigent Relief." — Cleaves Bennett, *Champaign*.

Referring to the change in conditions pertaining to the attitude of physicians toward indigent medical care. The poor we have with us, always have had them, and always will, although recently we have had the most serious problems referable to their care of all times in modern history. Problems in connection with indigent medical care vary, with the communities. The necessity of physicians and county medical societies "sticking together" on a unified plan to combat this problem in an intelligent manner. Some criticisms of the old plan of "selling a contract for medical care to the lowest bidder."

Discussion opened by Harold M. Camp, *Secretary*, Illinois State Medical Society, Monmouth.

11:00—"Whither Goest Thou?"—Charles G. Farnum, *First Vice-President*, Illinois State Medical Society, Peoria.

"No conception can be understood except through its history." The field of medical practice has been infringed upon during the past years by a horde of agencies that have gradually appropriated this, have absorbed that and have secured control of the other. Their effort is to mechanize medicine, to put it on a plane of mass production, to conduct it on the principles of big business, not for the benefit of the sick, but for their own profit or aggrandizement. This may be good business, but it is bad medicine. The function of medical practice is to relieve suffering and prolong life. It is a science and an art. It deals with the health, happiness, productivity and longevity of human beings. It stands on a wholly different plane than business and by that token

is not amenable to the application of so-called business methods. Facing then, as we do on every side, the multitudinous menaces to ourselves and our profession, is it not time to pause, contemplate the future and ask, "Whither Goest Thou?"

Discussion opened by Thomas P. Foley, *Secretary*, Chicago Medical Society, Chicago.

11:30—"What Is Right with the Medical Profession?"—Miss Jean McArthur, *Secretary*, Educational Committee, Illinois State Medical Society, Chicago.

We hear on all sides about the many things that are wrong with the medical profession. It seems time for medicine to come forth and defend its position—show the public that there are many things about the profession which are altogether right and, if necessary, expose those who would destroy a code of ethics that has withstood the test of time and experience.

Discussion opened by Donald W. Killinger, *Secretary*, Will-Grundy County Medical Society, Joliet.

11:55—Annual Election of Secretaries' Conference.

## MEETINGS OF THE HOUSE OF DELEGATES

*Tuesday Afternoon, May 15, 1934*

3:00—First meeting of the House of Delegates called to order by the President, Philip H. Kreuscher, for reports of Officers, Councilors, Chairmen of Committees, Introduction of Resolutions, and for the transaction of other business which may come before the House.

*Thursday Morning, May 17, 1934*

8:30—Second meeting of the House of Delegates called to order by the President, for election of officers, members of the Council, Committees, and Delegates to the American Medical Association.

Reports of Resolutions Committee, and action on the resolutions, and for the transaction of other business that may come before the House.

The Credentials Committee will meet thirty minutes before each meeting of the House of Delegates, to receive and approve credentials of regularly elected delegates from component societies, so that they may be properly seated.

## GENERAL SESSIONS

*Tuesday Afternoon, May 15, 1934*

1:00—Eighty-Fourth Annual Meeting of the Illinois State Medical Society officially opened by the President, Philip H. Kreuscher, Chicago.

1. Invocation—Rev. Hudson H. Pittman, Pastor, First Congregational Church, Springfield.
2. Address of Welcome—Hon. John W. Kapp, Jr., Mayor of Springfield.
3. Address of Welcome—Harry Otten, M. D., President, Sangamon County Medical Society, Springfield.
4. Report of Chairman, Committee on Arrangements—A. E. Walters, M. D., Springfield.
5. Address—"Some Problems in Government."—Hon. J. M. Braude, Associate Director, Department of Finance, State of Illinois Springfield.
6. Adjournment for Oration in Medicine.

1:45—Oration in Medicine.—"The Diagnosis of Heart Disease, Historical Development of Its Recognition."—Walter L. Bierring, M. D., President-Elect, American Medical Association, Des Moines, Iowa. (By invitation.)

*Wednesday Morning, May 16, 1934*

11:00—Oration in Surgery.—"Ten Years of Progress in the Treatment of Fractures."—Frederic J. Cotton, M. D., Boston, Massachusetts. (By invitation.)

*Thursday Morning, May 17, 1934*

Induction of the President-Elect.

Immediately following the close of the last meeting of the House of Delegates, the President-Elect will be inducted into the office of President by the retiring President.

Owing to the recent tragic death of our President-Elect, Dr. Chas. D. Center, the House of Delegates will select a successor to be inducted at this meeting.

All members and guests are urged to attend this important function.

## SECTION PROGRAMS

## SECTION OF MEDICINE

Richard F. Herndon, *Chairman*.....Springfield  
Don C. Sutton, *Secretary*.....Chicago

*Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Public Health and Hygiene, and Radiology.

## SYMPOSIUM ON PNEUMONOCOONIOSIS

2:45—

1. "The Function of the State Department of Health in the Control of Pneumonoconiosis."—Frank J. Jirka, Director, Springfield.

The part the State Department of Public Health plays in the control of pneumonoconiosis will be discussed. The broader aspects of the problem will be covered from the viewpoint of an administrative health officer. Some newer knowledge of dust hazards will be reviewed.

3:05—

2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumonoconiosis."—C. O. Sappington, Chicago.

Pneumonoconiosis as a recent industrial problem. Definition and application of terms specifically applied to the scope of this paper. Difficulty of establishing causal relationships and the necessity for objective data related to environmental exposure.

The hygienic survey and occupational analysis as the initial step of investigation before the adequate application of laboratory methods can be accomplished. The four exposure factors: (a) concentration of dust; (b) particulate size distribution; (c) mineralogical composition; (d) period of occupational exposure. Description of technique. Comparison of findings with typical experiences to attain measure of severity. Necessity of correlation with clinical findings. Interpretation of present applicability of methods with comments and conclusions.

3:25—

3. "The Health of Workers in Dusty Trades."—R. R. Sayers and J. J. Bloomfield, Washington, D. C.

The studies conducted during the past few years on the health of workers in certain dusty trades in the United States are discussed briefly in the present paper. Among the dusty trades included are: granite cutting, cement manufacture, hard rock mining, rock excavation in cities, sandblasting, the abrasive industry, and slate and talc mining and milling.

The technique involved in conducting dust studies in industry is described—clinical, roentgenological, statistical, and workroom environmental studies, especially



with reference to the determination of the quantity, nature, and size of industrial dusts present in the industrial atmosphere. In addition, the methods used in the control of the dust hazard are presented in this paper. 3:45—

4. "Clinical Findings in Pneumoconiosis."  
—Jerome R. Head, Chicago.

There are no symptoms and no physical findings which are diagnostic of pneumoconiosis. A history of exposure, a characteristic roentgenogram and the absence of other conditions which can simulate it are essential to the diagnosis. The only symptoms of uncomplicated pneumoconiosis is shortness of breath. When complicated by bronchitis, cough and occasional pleuritic pains are added. When tuberculosis supervenes, as it does frequently, the symptoms are those of the complicating disease. The most important clinical findings are a reduced vital capacity and a limited chest expansion. Terminal failure of the right heart may give cyanosis and congestion. Pleurisy with effusion and spontaneous pneumothorax are occasional complications. The condition must be differentiated from pulmonary tuberculosis, heart disease, miliary carcinosis, miliary tuberculosis and certain rare forms of miliary fungus infections.

4:05—

5. "Pathology in Pneumoconiosis."—Richard H. Jaffe, Chicago.

Generally speaking there are four different types of pulmonary lesions which are caused by the inhalation of irritating dust, namely, the lymphangitic type, the nodular-nodose type, the sclerosing type, and the ulcerative type. The lymphangitic type is characterized by the accumulation of the dust particles in the preformed lymph spaces, and is found chiefly in anthracosis. In the nodular-nodose type there are pinpoint to pea sized nodules scattered throughout the lungs which are composed of a very dense connective tissue. In the sclerosing type large portions of the lung become replaced by a very firm and scar-like connective tissue. The last type shows cavities which are usually small, are lined by a shaggy, deeply pigmented tissue and are filled with an ink-like fluid. These cavities have nothing to do with the action of bacteria. The most irritating type of dust is silica dust, and the most severe lesions in the lung are encountered in silicosis.

4:25—

6. "Radiographic Visualization of Fibrosis Produced by Dust Inhalation." — F. Flinn, Decatur.

*Wednesday Morning, May 16, 1934*

8:30—"Psychiatry's Place in Medicine."—S. N. Clark, Jacksonville.

Similarities and dissimilarities of Psychiatry to other branches of medicine. Dangers of extravagant claims. Impossibility of adequate understanding of mental disorders except from medical viewpoint. Contributions of Psychiatry to Medicine.

Discussion opened by William H. Holmes, Chicago.

8:50—"The Early Diagnosis of Pulmonary Tuberculosis."—J. E. McCorvie and M. Pollak, Peoria.

Experience shows that a comparatively large number of patients entering Sanatoria are already in an advanced stage of tuberculosis. A study of one hundred consecutive cases entering the Peoria Municipal Tuberculosis Sanatorium was made with the purpose of determining (1) the interval of time between the first appearance of symptoms referable to tuberculosis and the patients' first visit to a doctor on this account. (2) the time interval between the first visit to a physician and the making of the diagnosis and (3) the diagnostic methods employed in establishing the diagnosis. This study shows (1) that many patients consult the physician long after the appearance of the first symptom and (2) that x-ray, sputum examinations and other laboratory procedures are frequently not employed. Illustrative case reports and x-rays are presented.

Discussion opened by George T. Palmer, Springfield.

9:10—"Non-Parasitic Cystic Disease of the Lungs."—Emmet F. Pearson, Springfield.

Cystic disease of the lungs may cause clinical syndromes of the widest variety. It may simulate clinically and roentgenologically spontaneous pneumothorax, tuberculosis, bronchiectasis, encapsulated empyema, and other chronic lung diseases. Eight cases of different types of lung cysts which were studied in the chest service of Barnes Hospital, St. Louis, are originally reported. A review of the 172 cases which have been reported in the world literature is given. Important features of diagnosis and treatment are demonstrated by lantern slides.

Discussion opened by Maxim Pollak, Peoria.

9:30—"Survey of Allergic Diseases in Childhood."—W. L. Crawford, Rockford.

What is allergy? What diseases are allergic? What ones are important in childhood? Characteristics by which an allergic individual differs from others. Historical "high-lights" of asthma, hay fever, skin tests. Special emphasis on diagnosis, treatment and prognosis. Examples of success and failure in treating asthma, hay fever, urticaria and eczema from allergic standpoint. Should eczema, especially infantile eczema, be approached from the allergic viewpoint? Illustrated address.

Discussion opened by Leon Unger, and I. Harrison Tumpeer, Chicago.

9:50—"Allergy in General Practice."—Samuel M. Feinberg, Chicago.

The application of the principles of allergy in medicine has become useful in so many specialties and general practice that all practitioners must assume an interest in it. One hundred specialists in allergy cannot

take care of several million allergic patients. Since the average medical man will have to handle the average case of allergy, it behooves him to interest himself in the subject and to master its fundamentals.

Discussion opened by I. Pilot, Chicago.

10:10—"Benign Melliturias."—Thos D. Masters, Springfield.

A reducing substance in the urine is usually due to diabetes, but occasionally other conditions are responsible. Until complete diagnostic testout is done, the mellituria must be considered to be potentially serious and due to diabetes mellitus. A complete testout should include a differential of the other causes of a reducing substance in the urine. These latter are discussed in this paper. Special consideration is given renal glycosuria which seems to present a suggestive symptomatology and characteristic findings not widely recognized by the profession.

Discussion opened by Ralph McReynolds, Quincy.

10:30—"Pancreatic Dysfunction."—B. Markowitz, Bloomington.

Pancreatic dysfunction includes, as well as diabetes mellitus, its opposite called hyper-insulinism. A review of the literature shows that this condition may be as frequent an occurrence as diabetes. A typical hyper-insulinism case is reported which runs a prolonged course with various diagnoses and no improvement until hypo-glycemia is found by blood sugar estimation. Diabetes and hyper-insulinism have been observed in the same patient indicating a common origin in secretory disorders of the pancreas.

Discussion opened by Sidney A. Portis, Chicago.

11:00—Adjournment for Oration in Surgery.

### *Wednesday Afternoon, May 16, 1934*

2:30—"The Value of Symptoms."—Chairman's Address. Richard F. Herndon, Springfield.

A discussion of the importance and practical value of the purely subjective phenomena of disease.

2:50—"The Role of the Hypophysis in Thyroid Syndromes."—Hugo R. Rony, Chicago.

Research shows a thyrotropic hormone in the anterior lobe of the hypophysis which influences the size, structure and functional activity of the thyroid. The application of this knowledge to myxedema, cretinism and hyperthyroidism is discussed. Case reports. Lantern demonstration.

3:10—"The Relation Between the Preoperative Condition of the Patient and Operative Mortality in Exophthalmic Goiter."—W. O. Thompson, S. G. Taylor, III, and Karl A. Meyer, Chicago.

The most important factor in determining the risk of thyroidectomy for exophthalmic goiter is the preoperative condition of the patient. Great attention should be paid not only to the response to iodine, but also to body weight and emotional instability. By applying this principle to the treatment of exophthalmic goiter in a large municipal hospital, it has been possible to reduce the mortality from over 10 per cent. to between 2 and 3 per cent.

Discussion opened by Frederick Tice, Chicago. and George Parker, Peoria.

3:30—"Cardiac Functional Diagnosis."—Fred M. Meixner, Peoria.

Factors determining adequacy of circulation. Functional tests for efficiency of heart. Diagnostic tests, radiography and electro cardiography. Respiratory tests—lowered oxygen tension and vital capacity tests. Exercise tests to estimate function. Other methods, such as Katzenstein's, Sahli, Barringer. Functional conditions producing cardiac decompensation. Function of heart muscle complicated, and efficiency difficult to estimate. Value of subjective symptoms with respect to environment. Functional and organic disorders differ but are related. Differentiate neurocardial from myocardial lesions. Conclusions.

Discussion opened by Don C. Sutton, Chicago.

3:50—"Hypertensive Heart Disease."—Robert S. Berghoff, Chicago.

Not a distinctive type of heart disease. Most frequently associated with senile hearts. Etiology and mechanism a voluminous subject. Earliest subjective manifestations, dyspnea, heart consciousness and pain. Incompetency of right ventricle ushers in edema, anasarca, ascites, hydrothorax. The mechanism of distal symptoms is intriguing. Physical signs occur early and are characteristic. Configuration of heart typical. Orthodiagram is invaluable. Aortic changes of diagnostic importance. Diagnosis simple, degree of heart muscle involvement, complex. Diagnostic and prognostic values of x-ray and electrocardiograph. Treatment of hypertensive heart disease.

Discussion opened by Frederick Causey, Peoria.

4:10—"Gastrointestinal Obstruction Simulating Malignancy."—Frank Deneen, Bloomington.

Different forms of obstruction are occasionally seen in the gastro-intestinal tract that resemble malignancy but which get relief on purely medical management. An attempt is made to differentiate between true malignancies and the non-malignant type in order that surgical intervention may be avoided and the patient given a better prognosis.

Discussion opened by Lowell Snorf, Chicago.  
4:30—"Agranulocytosis."—Frederic W. Burcky, Evanston.

This paper is essentially practical in character, re-



viewing briefly the major advances which have been made during the past year in the study of agranulocytosis. It presents the treatment of the disease in sufficient detail so that the physician may know exactly how to procure, prepare, and administer those therapeutic agents which are now considered the best.

Discussion opened by Tom Galloway, Chicago.  
5:10—"Membranous Non-Diphtheritic Infections of the Lower Respiratory Tract in Children."—Walter M. Whitaker and Walter Stevenson, Quincy.

This paper presents a review of the literature dealing with a fulminating form of laryngo-tracheobronchitis with a presentation of the clinical course, laryngoscopic and bronchoscopic findings, and a resume of the treatment in such conditions. The paper attempts to stress the importance of an early and differential diagnosis, since many of these cases have, in the past, probably been considered examples of laryngeal diphtheria. Several brief case histories are appended, giving the outstanding clinical characteristics in this condition, with a rather detailed report of one severe fatal case with a terminal bacillus pyocyaneus septicemia.

Discussion opened by Walter Stevenson, Quincy.

---

*Thursday Morning, May 17, 1934*

Joint session with Sections on Surgery, Eye, Ear, Nose and Throat, Public Health and Hygiene and Radiology.

9:00—"Generalization Concerning Cardiovascular Diseases."—Robert B. Preble, Chicago.

A generalization expresses something more than averages but less than 100 per cent. Omitting the less common diseases of the heart, the differences in incidence, etiology, methods of diagnosis, prognosis and therapy will be pointed out and contrasted.

9:40—"Relation of Animal Hygiene to Public Health."—Robert Graham, Urbana.

This paper represents the viewpoint of an experienced veterinarian in the important field of animal hygiene and its relationship to certain human diseases. Those animal diseases most frequently encountered in Illinois will be discussed.

10:00—"Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen, Chicago.

Twelve chronic fecal carriers of *B. typhosus* in the city of Chicago have received a series of from three to sixteen x-ray exposures over the liver region during the past two years in an attempt to cure them of their carrier state. One-third of the cases have been rendered *B. typhosus* free for periods varying from ten to twenty-four months; one-third have evidenced a reduction in the total *B. typhosus* output in the stool, and one third showed no change whatsoever. The results obtained are encouraging enough to warrant further

study—and x-ray therapy is recommended to health agencies as a possible means of controlling the carrier state.

Discussion opened by Lloyd Arnold, Chicago.  
10:20—"The Present Status of Ocular Surgery." (Motion picture demonstration).—Oscar B. Nugent, Chicago.

10:40—"Fractures of the Nose." (Motion picture demonstration).—Austin A. Hayden, Chicago.

11:00—"Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

The writer presents a comprehensive classification of intra-articular, extra-articular and combined lesions of the knee joint with an analysis of approximately one hundred fifty operations from his service at Cook County and Michael Reese Hospitals.

Lesions of the menisci are divided into two large groups and the various types of lacerations of each meniscus are illustrated.

The technic of excision of the menisci is described and illustrated. The post-operative treatment has been simplified.

Arthroplasty, arthrodesis, reconstruction of ligaments and bone reconstruction operations are included.

The writer also describes epiperiosteal and paraligamentous ossifying hematoma (so-called Pellegrini-Stieda's disease) involving the medial condyle of the femur.

Discussion opened by Philip H. Kreuscher, Chicago.

---

SECTION ON SURGERY

---

George W. Post, *Chairman*. . . . . Chicago  
B. V. McClanahan, *Secretary*. . . . . Galesburg

---

*Tuesday Afternoon, May 15, 1934*

2:30—"A Simplified Method of Internal Fixation of Fractures and the Use of Horn as a Fixation Material."—Edson B. Fowler, Evanston.

1. A very brief history of open reduction of fractures; of material used; of the relatively large number of bad results; of the importance of knowing when not to try to improve a closed reduction by an open one, with pictures illustrating the joint.

2. Research work over a period of some years.

3. Description of a simplified technique in open reductions, illustrated with pictures of cases where metal was used; end results.

4. Cases with the use of horn in the open reduction in place of metal; pictures before reduction and after bony union.

5. Summary; closing, emphasis on avoiding open reductions whenever it is possible.

Discussion opened by Fred W. Slobe, Chicago.

3:00—"Fractures of the Elbow."—S. H. Easton, Peoria.

Three essential points in the treatment of the fracture of the elbow are immediate relief of circulatory disturbance, a satisfactory reduction of the fragments with special attention to certain anatomic landmarks and the prevention of edema and maintenance of position during period of recovery. Supracondylar fractures are the most common and a method of handling these fractures is presented together with a short description of other types of elbow fractures.

Discussion opened by Charles P. Blair, Monmouth.

3:30—"The Treatment of Fractures of the Lower Limb by Fixation Traction."—Charles Papik, Chicago.

The shortcomings of present methods of treatment by weight and pulley as well as skeletal traction by Steinman pins or calipers, as commonly used are discussed. The certainty of reduction, immobilization and traction as obtained by the use of fixed traction, is more frequently assured and with greater comfort to the patient. In the majority of cases mal-union, non-union and shortening with associated deformity and disability, are prevented. The usual methods in use fail to accomplish these aims in the hands of the general practitioner. The accomplishment of these requirements by the method of fixed traction without weights, whether adhesive plaster, pins or calipers are used, is more frequently secured, and with the shortest period of hospitalization. The use of fixed traction undoubtedly eliminates to a large extent the necessity of plating and is more certain to give good results more uniformly.

Fixed traction can be used to good advantage in the treatment of compound fractures, giving better splinting, immobilization and traction.

4:00—"Rehabilitation of the Crippled Child from the Standpoint of Orthopedic Surgery."—Fremont A. Chandler, Chicago.

Surgical procedures are occupying a more important position in the care of bone and joint tuberculosis and in the correction of deformities of the spine. These advances as well as the newer phases of the correction of congenital dislocation of the hip; club feet; and of spastic paralysis are taken up as well as the problem of the child paralyzed by infantile paralysis."

Discussion opened by Hugh E. Cooper, Peoria.

4:30—"Riedel's Struma."—C. H. Tearnan of Decatur.

This disease of the thyroid gland is of interest chiefly because it is almost always diagnosed as carcinoma before microscopic examination is made. There are very few cases reported in the literature. We have two cases to add to those reported. The disease is characterized by the iron hardness of the thyroid, the various pressure symptoms, the rapid increase in the size of the gland and the invasion of soft tissues, with

fixation. The mortality is very high with or without operation. Recurrence after operation is usual. Operation followed by x-ray therapy is advised.

Discussion opened by L. E. Vovik, Waukegan.

5:00—"Obstetrics as a Surgical Specialty; Four Illustrative Case Reports."—John J. Gill, Chicago.

1. Spontaneous rupture of the uterus at five months pregnancy in a primipara. Hysterectomy, with excellent results.

2. Chorioepithelioma necessitating hysterectomy at five months of pregnancy. No recurrence after ten years.

3. Multiple large degenerated fibroids obstructing labor at term. Hysterectomy with mother and child living and well.

4. Placenta previa in a bicornate uterus, infant occupying both horns. Cesarean section with mother and infant in good condition.

Discussion opened by Frank F. Maple, Chicago.

*Wednesday Morning, May 16, 1934*

8:30—"Possible Means of Reducing Mortality from Appendicitis."—H. P. Saunders, Chicago.

The medical profession has been challenged with the statement that in spite of modern improvements, the mortality from appendicitis has not decreased as much as one would expect. The assertion has been made that ninety per cent of the fatal cases of appendicitis are of the obstructive type.

This is a study of approximately four hundred consecutive appendectomies performed in the Ravenswood Hospital within the last year in which specific questions were answered by the operating surgeon or interne at the time of operation as to history, symptoms and presence of evidence of obstruction to the lumen of the appendix.

The pathologist has also made special notations as to the presence or absence of evidence of obstruction in the specimen when it reached him.

By keeping careful records we have studied the possibility of diagnosing the type of pathology before operating, and compared the morbidity and mortality of the various types of appendicitis.

Discussion opened by J. J. Moore, Chicago.

9:00—"Some Facts About Blood Transfusions." (Illustrated by lantern slides.)—Frank J. Otis, Moline.

1. Use of methods familiar to the practitioner.
2. Reduction of staff to one doctor and possibly a nurse.
3. Use of laboratory technique for the costly operating room set-up.
4. Bacteriologically perfect control.
5. Provide operator for the time he requires.
6. Slow withdrawal from the donor when desired.



7. Ample protection in case of shock to patient or donor.

8. No waste of blood.

9. Simplest methods.

10. Most ideal apparatus.

Discussion opened by John J. Pflock, Chicago.

9:30—"Resumé of a Ten-Year Study of the Treatment of Uterine Fibroids."—Ralph A. Reis, Chicago.

One thousand patients were treated for uterine fibroids. During the period under consideration treatment by radium has become less frequent because of the many contra-indications, the severity of post-radiation menopause, and the inability to examine the adnexae. During the same time, treatment by total and vaginal hysterectomy has increased steadily. Adnexal surgery was done in 50 per cent, but ovarian pathology apparently is not an etiologic factor in the production of fibroids. Only 19.3 per cent had an absolute sterility. One per cent had malignancy. The total mortality was 0.7 per cent (7 deaths). In the second 500 patients there was only one death.

Discussion opened by Joseph L. Baer and Edwin J. DeCosta, Chicago.

10:00—"The Principles of the Surgical Treatment of the Jaundiced Patient."—John A. Wolfer, Chicago.

It must be accepted as a fundamental concept that those conditions which produce jaundice affect not only the biliary ducts but the liver parenchyma, heart, kidneys, brain, pancreas and all the ductless glands and essential organs. In planning the course of treatment of the jaundiced patient recognition must be taken of a process which manifests itself in other ways except by a yellow discoloration of the skin and mucous membranes. Such states as the tendency to excessive bleeding, a subtle toxæmia, anemia, de-hydration and the mineral and chemical disbalance the sequence to starvation must be combated before any surgical procedure is carried out.

In the presence of an obstructive jaundice the liver cells may lose their power to store glycogen, necrosis may even supervene. This change may be due to a general sugar deficiency the result of starvation or the increased pressure and infection within the ducts. Since an adequate glycogen content is necessary for liver cell function, the liver no longer is capable of performing some of its more important functions. The portal blood laden with noxious substances and bacteria as well as food elements is not elaborated. The patient becomes in fact a modified Eck Fistula preparation. It is believed that this breakdown in the liver functions accounts for at least some of the toxic symptoms in the jaundiced patient, moreover, the tendency to bleeding can be placed upon this basis.

It is apparent that the pre-operative treatment becomes the crux of the situation. The surgeon should not allow himself to be stampeded into a hasty operation. Adequate time is required for adequate pre-operative treatment. Sugar must be administered either by

mouth or intravenously in amounts sufficient to restore a glycogen balance. The protein intake should be basal. In some instances a simple and rapid decompression procedure must be resorted to in order to reduce liver pressure. In the presence of a moderate or severe anemia or when the tendency to bleeding is present one or more blood transfusions are extremely beneficial. A jejunostomy in some instances is desirable since the patient can be given ample nutrition and water with vitamins over a period of time.

10:30—"Sacro-Coxalgia."—Joseph A. Alleghetti, Chicago.

Sacrocoxalgia is defined as an entity due to a subluxation or arthritis of the sacro-iliac joints causing pain in the lower back and brought on usually by trauma. It is carefully differentiated from simulating conditions such as fractures or arthritis of the lumbosacral region, coccydynia, myalgia, neuritis of the sacral plexus, sacralization of the fifth lumbar vertebra and specific diseases such as sacroiliac tuberculosis, hip joint disease and syphilis. The pathology varies from a simple inflammation of the synovia to the formation of adhesions, scar tissue and arthritis. The treatment if prophylactic, by the avoidance of trauma and early attention to foci of infection, and actual, by manipulation, strapping and belts and by the epidural injection of normal saline in varying amounts (50-100 cc.)

11:00—Adjournment for Oration in Surgery.

### *Wednesday Afternoon, May 16, 1934*

2:30—"Spinal Anesthesia."—W. L. Waner, Evanston.

The paper will be based on the experience and results in over three hundred cases of spinal anesthesia administered by the author to private patients at St. Francis Hospital, Evanston, Illinois. The paper will embrace the following phases of spinal anesthesia:

1. Indications and contraindications for spinal anesthesia.
2. The role of spinal anesthesia in the surgery of the biliary tract. This discussion will include a statistical study showing an improvement in mortality rate as compared to general anesthesia.
3. Spinal anesthesia in congestive heart failure with a short report of successful emergency operation on such a case.
4. Spinal anesthesia in caesarian section surgery.
5. A consideration of new methods of maintaining the blood pressure in high abdominal surgery with special reference to veneclysis.
6. Consideration of points in technique in the administration of spinal anesthesia as a prophylaxis for post-spinal complications.
7. Pre-operative medication for spinal anesthesia with special reference to grouping patients into sensitive and hyposensitive classes.
8. Post-spinal complications and their treatments.

### 3:00—"Immediate Treatment of Compound Injuries."—Sumner L. Koch, Chicago.

The immediate treatment of compound injuries deserves the consideration of every surgeon because compound injuries are serious, because they are constantly increasing in number, and because the surgeon who sees the patient immediately after the injury has the best opportunity of securing the most satisfactory results.

Important factors in the treatment of compound injuries are: care in cleansing the wound and the surrounding tissues so as not to add infection to the contamination already present; avoidance of additional traumatism, either mechanical or chemical; and immediate covering of raw surfaces and closure of open wounds, whenever this can be accomplished with safety to the patient.

### 3:30—"Acute Intestinal Obstruction; Its Early Recognition."—Earl I. Greene, Chicago.

Early diagnosis is of paramount importance in acute intestinal obstruction. Our mortality is excessive because of delay and failure to successfully interpret a few outstanding signs and symptoms which must always be kept in mind. Any patient, but most especially one who has previously been operated upon, who presents recurrent attacks of intermittent, colicky pain, coming on at short intervals, accompanied by nausea and vomiting, should be considered as a potential intestinal obstruction.

Early—obstipation and distention do not occur. These are rather late manifestations of obstruction. The passing of gas or fecal material either spontaneously or after the giving of an enema does not preclude the presence of an obstruction to the bowel, for that portion of the bowel distal to the point of obstruction is normal, and as long as material is present in that portion of the bowel beyond the obstruction gas or fecal material may be passed. Obstipation spells delay. Distention means delay.

Stethoscopic examination of the abdomen is of the utmost importance in a suspected case. The finding of loud peristaltic sounds, often explosive in character and reaching its intensity at the height of the pain is further evidence that an obstruction to the flow of material through the bowel is present.

X-ray evidence, manifested by the presence of gas and later fluid, present in the small bowel is characteristic of intestinal obstruction. Normally air cannot be visualized in the small bowel on a flat plate of the abdomen.

The above findings, combined, spell intestinal obstruction.

Discussion opened by J. Major Greene, Chicago.

### 4:00—"Collapse Therapy of Pulmonary Tuberculosis."—Minas Joannides, Chicago.

Collapse therapy in pulmonary tuberculosis has definite advantages over so-called conservative routine in that it induces a mechanical collapse of the pathologic lung. Collapse of the lung causes less toxic lymph to be absorbed. A more rapid fibrosis results by the im-

mobilization of the lung. Artificial pneumothorax is by far the simplest and most popular method of collapse. Other procedures such as oleothorax, phrenic neurectomy, pneumolysis, or thoracoplasty are of definite value when indicated. It is important to have a proper selection of cases for each procedure. In properly selected cases collapse therapy offers to the tuberculous patient a ray of hope for complete recovery which the so-called sanitarium regime alone cannot do.

Discussion opened by Robert H. Hayes, Chicago.

### 4:30—"Placing the Responsibility for Increasing Cancer Mortality."—E. G. C. Williams, Danville.

A discussion of the real and fanciful causes of increasing cancer incidence and mortality. The need of coordination of all phases of the accepted methods of cancer prevention, diagnosis and treatment. The shortcomings of the medical profession as a group and as individuals that contribute to the increasing mortality. A definite program for correction through cooperation. With continued lay education and medical teamwork the cancer mortality rate can be reduced.

### 5:00—"Pyelocystitis."—Clarence C. Saellhof, Chicago.

The detail bacteriology and experimental phases of diphase strains of streptococci appearing in both diphtheroid and streptococcal forms isolated from the urine of a case of pyelocystitis, relieved only by nephrectomy, is described.

Discussion opened by Frank M. Phifer, Chicago.

## *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Eye, Ear, Nose and Throat, Public Health and Hygiene, and Radiology.

### 9:00—"Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

A generalization expresses something more than averages but less than 100 per cent. Omitting the less common diseases of the heart, the differences in incidence, etiology, methods of diagnosis, prognosis and therapy will be pointed out and contrasted.

### 9:40—"Relation of Animal Hygiene to Public Health."—Robert Graham, Urbana.

This paper represents the viewpoint of an experienced veterinarian in the important field of animal hygiene and its relationship to certain human diseases. Those animal diseases most frequently encountered in Illinois will be discussed.

### 10:00—"Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen, Chicago.

Twelve chronic fecal carriers of *B. typhosus* in the city of Chicago have received a series of from three to sixteen x-ray exposures over the liver region during



the past two years in an attempt to cure them of their carrier state. One-third of the cases have been rendered *B. typhosus* free for periods varying from ten to twenty-four months; one-third have evidenced a reduction in the total *B. typhosus* output in the stool, and one-third showed no change whatsoever. The results obtained are encouraging enough to warrant further study—and x-ray therapy is recommended to health agencies as a possible means of controlling the carrier state.

Discussion opened by Lloyd Arnold, Chicago.  
10:20—"The Present Status of Ocular Surgery." (Motion picture demonstration.)  
—Oscar B. Nugent, Chicago.

10:40—"Fractures of the Nose." (Motion picture demonstration.)—Austin A. Hayden, Chicago.

11:00—"Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

The writer presents a comprehensive classification of intra-articular, extra-articular and combined lesions of the knee joint with an analysis of approximately one hundred fifty operations from his service at Cook County and Michael Reese Hospitals.

Lesions of the menisci are divided into two large groups and the various types of lacerations of each meniscus are illustrated.

The technic of excision of the menisci is described and illustrated. The post-operative treatment has been simplified.

Arthroplasty, arthrodesis, reconstruction of ligaments and bone reconstruction operations are included.

The writer also describes epiperiosteal and paraligamentous ossifying hematoma (so-called Pellegrini-Stieda's disease) involving the medial condyle of the femur.

Discussion opened by Philip H. Kreuscher, Chicago.

#### SECTION ON EYE, EAR, NOSE AND THROAT

George S. Duntley, *Chairman*. . . . . Macomb  
Oscar B. Nugent, *Secretary*. . . . . Chicago

*Tuesday Afternoon, May 15, 1934*

3:00—"The Efficiency of Orthoptic Training in the Treatment of Strabismus." Illustrated by motion pictures and slides.—  
J. L. Bressler and Katherine Chapman, Chicago.

This clinic was organized early in September at the suggestion of Dr. Thomas D. Allen. The opportunity was given to develop it. The results have been gratifying. In the non-operative treatment we have four definite therapeutic measures at our disposal.

1. Optical correction.
2. Occlusion of fixing eye.
3. Atropine of the fixing eye.
4. Training fusion sense.

#### Conclusions:

1. The necessity for surgery in squint cases will be greatly reduced.

2. Where surgery is necessary or has been done the end results with Orthoptic training will be superior to surgery alone.

3. Treatment of amblyopia before surgery will assure better results. In conclusion we would like to voice a plea to educate the public and general practitioner to the fact that all strabismus cases should receive treatment as early as possible after the appearance of the deviation.

Discussion opened by Thomas D. Allen, Chicago.

3:30—"The Treatment of Myopia by Base in Prisms."—Lantern Slide demonstration.  
P. Abernathy Graves and Oscar B. Nugent, Chicago.

There is a resumé of the literature giving a brief outline of the classification of myopia, its cause and treatment. Early treatment of the various types of myopia, especially the pseudo myopia, and school myopia; method of handling and treatment of same, stressing the use of "base in" prisms in this connection. The information of proper eye habits in early childhood is important in these cases. Presentation of case histories.

Discussion opened by Otto Wolfe, Marshalltown, Iowa. (By invitation). C. B. Voight, Mattoon.

4:00—"Incipient Cataract."—Jesse H. Roth and C. W. Geiger, Kankakee.

Very many incipient cataracts which we cannot readily account for in any other manner are relegated to the classification of senile cataracts. Our management of such lenticular opacities has been more or less indifferent. In a review of approximately 1400 cataracts observed over a period of 20 years, relatively few have come to the necessity of surgery. The percentage of ocular pathology, complicating incipient cataracts, has been amazingly great. By close cooperation with the internist and routine observation many of these complications have disappeared and the lens opacities have become stationary. Our patients deserve to know the true status of their condition and should be given every opportunity of having the surgical necessity postponed. If surgery seems imminent their general condition should be maintained so that the operation will meet with not only our expectations but with the patient's as well.

Discussion opened by Harry W. Woodruff, Joliet.

4:30—"The Management of Allergic Vaso-motor Rhinitis." (Illustrated with lantern slides.)—Michael Zeller, Chicago.

As a means of differential diagnosis, the history of other allergic manifestations in the patient and his family, laboratory findings of blood and nasal smears,

skin tests and therapeutic tests will usually rule out other conditions. Scratch tests are frequently negative but intradermal tests may lead to the diagnosis. All positive tests should be demonstrated clinically before being accepted as an etiologic factor. Negative tests do not rule out allergy. Food management often leads to relief of symptoms even without positive skin tests.

Discussion opened by Frank J. Novak, Jr., Chicago.

5:00—"Osteomyelitis of the Frontal Bone in Frontal Sinus Infections."—M. A. Glatt, Chicago.

In the treatment of acute frontal sinus infections we are at times confronted with a clinical picture indicating a spread of the infection beyond the mucosa of the sinus. A dilemma which then presents itself, due to our apprehension of radical operative measures in an acute process. Two cases of osteomyelitis in acute frontal sinus infections are reported. An analogy is made with the signs of surgical mastoiditis, attempting therewith to place the treatment of this entity on a more rational basis.

Discussion opened by C. F. Yerger and J. R. Lindsay, Chicago.

6:15-7:45—Banquet (informal) and Entertainment.

### *Wednesday Morning, May 13, 1934*

8:30—"Cysts of the Epiglottis."—George Woodruff, Joliet.

A review of the recent literature giving the cause and treatment of epiglottal cysts. A plan of simple removal of cysts from the epiglottis as used by the author, is given.

Discussion opened by H. L. Ford, Champaign.

9:00—"Surgical Relief of Painful Deglutition in Laryngeal Tuberculosis."—Louis Savitt and Simon Soboroff, Chicago.

This report is intended to point out briefly that surgical measures have been made available, which are so essential to the treatment of the advanced tuberculous larynx, especially where the severely painful throat makes swallowing so difficult a task and interferes with the patient's comfort and rest, that is so vitally necessary.

The authors have minutely described the anatomy of the recurrent laryngeal nerve, the technic used in blocking the nerve with alcohol and the method of resection of the internal branch of the superior laryngeal nerve. In conclusion the authors feel that their method is simple, rapid and absolutely safe, and state that resection of the superior laryngeal nerve in the advanced cases of laryngeal tuberculosis affords enough relief to a vast number of patients to warrant general consideration and sympathetic use.

9:30—"Rationalization in Therapy of Laryngeal Tuberculosis."

Francis L. Lederer, and Louis Zolo Fishman, Chicago.

1. Stress is placed first on the origin of this specific form of laryngeal pathology from a primary pulmonary tuberculosis, it being recalled, however, that laryngeal complications, when they occur in these tuberculous patients, are not necessarily specific in character.

2. Equal importance is attached to concise clinical and histo-pathological interpretations of the pulmonary and laryngeal states.

3. Finally, precise localization of the laryngeal lesion anatomically is emphasized with reference to consequent dysfunction of local physiological acts and subsequent local and general ill effects on the patient. These three groups of factors are discussed as prerequisites to the formation of a basic equilateral triangle for comprehensive diagnosis, it follows that only upon such a complete and logical foundation can the multitudinous types of therapy be pyramided toward success in an application to the almost equally great number of tuberculous manifestations within the laryngeal structure. The conclusion becomes obvious "that any departure from the above principles may be stigmatized as empirical if not entirely unsound."

Discussion opened by Irving I. Muskat, Chicago.

10:00—"The Modern Conception of Cancer of the Larynx."—M. Reese Guttman, Chicago.

This will deal with histologic study of malignant epithelial neoplasms, the relation of their microscopic structure to the type of therapy to be employed and the extent of surgery indicated. Some newer aids in the diagnosis and treatment will be briefly described.

Discussion opened by H. L. Ford, Champaign and Francis L. Lederer, Chicago.

10:30—"The Rehabilitation of the Voice After Laryngectomy."—Movietone demonstration. Joseph C. Beck, Chicago.

1. A discussion of the various methods of voice culture and training after laryngectomy will be presented.

2. Demonstration of a patient.

3. Electric Transcription record.

4. Movietone demonstration.

Discussion opened by Frank J. Novak, Jr., Chicago.

11:00—Adjournment for Oration in Surgery.

### *Wednesday Afternoon, May 16, 1934*

2:30—"Preparedness of the General Practitioner Relative to First Aid in Acid and Alkali Injuries of the Eye."—A. B. Middleton, Pontiac.

Very few, if any, general practitioners have solutions made up ready for use in case an acid or alkali eye case comes in unexpectedly (and I am sorry to say



many eye doctors are in the same boat). Today when batteries, auto, radio, etc., are being worked upon by amateurs, many acid burns occur. Ammonia pipes in refrigeration and cooling plants burst when least expected. Many physicians cannot remember in the first moment what to use as a neutralizing agent and if so, may not have it handy, and so while procuring something to use the burn in the eye is becoming deeper and deeper. It is suggested that every doctor spend about fifty cents and procure for his shelf lime water, 10 per cent. bicarbonate of soda, diluted acetic acid, and 2 per cent. ammonia chloride—all in a convenient place, properly labeled, with directions so that the office assistant can begin using them until the doctor arrives, if he is out, and thus many eyes would be saved in this state every year.

Discussion opened by D. F. Henderson, Bloomington.

3:00—"Treatment of Ulcers of the Cornea."—C. F. Yerger, Chicago.

1. Clinical types of corneal ulcers.
2. Management of superficial or deep and progressive types.
3. Non-operative and operative treatment.
4. Complications and sequelae.

Discussion opened by Walter Stevenson, Quincy.

3:30—"Retinitis Pigmentosa Without Hereditary or Familial Stigmata."—Lantern slide demonstration. Richard A. Perritt, Chicago.

A review of the literature, so far as I know, reveals that this is the youngest case of retinitis pigmentosa as yet recorded, having been found in a girl of six. Hereditary and familial stigmata have been hunted for carefully but have not been found. A geneological tree is included. The youthful unfortunate prompts me to ask, "Should not a system be instituted making it obligatory for ophthalmologists to report to the Department of Health and statistics all cases of ophthalmic disease, the hereditary transmission of which is now generally recognized, thereby making this a sound basis for study and final disposition to the time honored questions to whether or not they are familial hereditary or consanguineous, or which factor is primary and which is secondary, and whether the propagation of these diseases should be curtailed."

Discussion opened by Leo L. Mayer, Chicago.  
4:00—"Surgical Drainage in Glaucoma."—Michael Goldenburg, Chicago.

The surgical procedure to be used in the various types and stages of glaucoma is at times important, but more important is what we are attempting to accomplish by this or that technic. A summary of all the operations devised for this purpose may be divided into two distinct classes; namely, those that aid to reopen the normal avenues of fluid escape and those that attempt to establish drainage by artificial channels.

Discussion opened by Harry W. Woodruff, Joliet.

4:30—"The Surgical Treatment of Retinal Detachment."—Samuel J. Meyer, Chicago.

In enumerating the various methods of treatment for detachment of the retina, Gonin must be given the credit for again making us surgically minded in the solution of this formerly hopeless problem. His galvano-puncture paved the way for numerous modifications such as the chemical cauterization of Guist and Lindner, which because of the difficulty in technic has not received the proper attention it deserves, and the various uses of diathermy as advocated by Weve and Larsson, with its more simple technic resulting in delicate but secure adhesions.

Discussion opened by Harry S. Gradle, Chicago; Joseph F. Duane, Peoria.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Public Health and Hygiene, and Radiology.

9:00—"Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

A generalization expresses something more than averages but less than 100 per cent. Omitting the less common diseases of the heart, the differences in incidence, etiology, methods of diagnosis, prognosis and therapy will be pointed out and contrasted.

9:40—"Relation of Animal Hygiene to Public Health."—Robert Graham, Urbana.

This paper represents the viewpoint of an experienced veterinarian in the important field of animal hygiene and its relationship to certain human diseases. Those animal diseases most frequently encountered in Illinois will be discussed.

10:00—"Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen, Chicago.

Twelve chronic fecal carriers of *B. typhosus* in the city of Chicago have received a series of from three to sixteen x-ray exposures over the liver region during the past two years in an attempt to cure them of their carrier state. One-third of the cases have been rendered *B. typhosus* free for periods varying from ten to twenty-four months; one-third have evidenced a reduction in the total *B. typhosus* output in the stool, and one-third showed no change whatsoever. The results obtained are encouraging enough to warrant further study—and x-ray therapy is recommended to health agencies as a possible means of controlling the carrier state.

Discussion opened by Lloyd Arnold, Chicago.

10:20—"The Present Status of Ocular Surgery." (Motion picture demonstration.)—Oscar B. Nugent, Chicago.

10:40—"Fractures of the Nose." (Motion pic-

ture demonstration.)—Austin A. Hayden, Chicago.

11:00—"Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

The writer presents a comprehensive classification of intra-articular, extra articular and combined lesions of the knee joint with an analysis of approximately one hundred fifty operations from his service at Cook County and Michael Reese Hospitals.

Lesions of the menisci are divided into two large groups and the various types of lacerations of each meniscus are illustrated.

The technic of excision of the menisci is described and illustrated. The post-operative treatment has been simplified.

Arthroplasty, arthrodesis, reconstruction of ligaments and bone reconstruction operations are included.

The writer also describes epiperiosteal and paraligamentous ossifying hematoma (so-called Pellegrini-Stieda's disease) involving the medial condyle of the femur.

Discussion opened by Philip H. Kreuscher, Chicago.

#### SECTION ON PUBLIC HEALTH AND HYGIENE

J. Howard Beard, *Chairman*.....Urbana  
Lloyd Arnold, *Secretary*.....Chicago

*Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Medicine and Radiology.

#### SYMPOSIUM ON PNEUMONOCONIOSIS

2:45—1. "The Function of the State Department of Health in the Control of Pneumoconiosis."—Frank J. Jirka, Director, Springfield.

The part of the State Department of Public Health plays in the control of pneumoconiosis will be discussed. The broader aspects of the problem will be covered from the viewpoint of an administrative health officer. Some newer knowledge of dust hazards will be reviewed.

3:05—2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumoconiosis."—C. O. Sappington, Chicago.

Pneumoconiosis as a recent industrial problem. Definition and application of terms specifically applied to the scope of this paper. Difficulty of establishing casual relationships and the necessity for objective data related to environmental exposure.

The hygienic survey and occupational analysis as the initial step of investigation before the adequate application of laboratory methods can be accomplished. The

four exposure factors: (a) concentration of dust; (b) particulate size distribution; (c) mineralogical composition; (d) period of occupational exposure. Description of technique. Comparison of findings with typical experiences to attain measure of severity. Necessity of correlation with clinical findings. Interpretation of present applicability of methods with comments and conclusions.

3:25—3. "The Health of Workers in Dusty Trades."—R. R. Sayers and J. J. Bloomfield, Washington, D. C.

The studies conducted during the past few years on the health of workers in certain dusty trades in the United States are discussed briefly in the present paper. Among the dusty trades included are: granite cutting, cement manufacture, hard rock mining, rock excavation in cities, sandblasting, the abrasive industry, and slate and talc mining and milling.

The technique involved in conducting dust studies in industry is described—clinical, roentgenological, statistical, and workroom environmental studies, especially with reference to the determination of the quantity, nature, and size of industrial dusts present in the industrial atmosphere. In addition, the methods used in the control of the dust hazard are presented in this paper.

3:45—4. "Clinical Findings in Pneumoconiosis."—Jerome R. Head, Chicago.

There are no symptoms and no physical findings which are diagnostic of pneumoconiosis. A history of exposure, a characteristic roentgenogram and the absence of other conditions which can simulate it are essential to the diagnosis. The only symptoms of uncomplicated pneumoconiosis is shortness of breath. When complicated by bronchitis, cough and occasional pleuritic pains are added. When tuberculosis supervenes, as it does frequently, the symptoms are those of the complicating disease. The most important clinical findings are a reduced vital capacity and a limited chest expansion. Terminal failure of the right heart may give cyanosis and congestion. Pleurisy with effusion and spontaneous pneumothorax are occasional complications. The condition must be differentiated from pulmonary tuberculosis, heart disease, miliary carcinosis, miliary tuberculosis and certain rare forms of miliary fungus infections.

4:05—5. "Pathology in Pneumoconiosis."—Richard H. Jaffe, Chicago.

Generally speaking, there are four different types of pulmonary lesions which are caused by the inhalation of irritating dust, namely, the lymphangitic type, the nodular-nodose type, the sclerosing type, and the ulcerative type. The lymphangitic type is characterized by the accumulation of the dust particles in the preformed lymph spaces, and is found chiefly in anthracosis. In the nodular nodose type there are pinpoint to pea sized nodules scattered throughout the lungs which are composed of a very dense connective tissue. In the sclerosing type large portions of the lung become replaced by a very firm and scar-like connective tissue. The last type shows cavities which are usually small, are lined



by a shaggy, deeply pigmented tissue and are filled with an ink-like fluid. These cavities have nothing to do with the action of bacteria. The most irritating type of dust is silica dust, and the most severe lesions in the lung are encountered in silicosis.

- 4:25—6. "Radiographic Visualization of Fibrosis Produced by Dust Inhalation."—F. Flinn, Decatur.

---

*Wednesday Morning, May 16, 1934*

- 9:00—"The Facilities for Teaching Legal Medicine to Students in the University of Illinois College of Medicine."—S. A. Levinson and C. W. Muehlberger, Chicago.

The physical equipment for teaching Legal Medicine is located essentially in the medical center in Chicago, which is in and about the Cook County Hospital. These include the Cook County Hospital, with its medico-legal postmortem rooms, inquest rooms and laboratories for chemistry, toxicology, and pathology. In the immediate vicinity is the medical college of the University of Illinois, the Institute of Juvenile Research, the state criminologist, psychologists, psychiatrists and social workers. Within a short distance is the Northwestern University's crime detection laboratory specializing in microscopy of hairs, fibers, identification of bullets, document examination, and the use of ultra violet light in investigative work. The coroner's office also maintains a ballistics division for the identification of guns and bullets.

These facilities lend themselves for teaching purposes not only to students but graduate students and physicians as well. The increasing number of sudden deaths and crimes as well as industrial hazards makes it essential that one familiarize himself with not only the medical but legal aspects as well. The instruction in Legal Medicine offered in most medical schools at present is inadequate to give such training.

Discussion opened by M. G. Bohrod, Peoria.

- 9:25—"The Typhoid Fever Situation in Illinois."—B. K. Richardson, Springfield.

The course of typhoid fever prevalence and mortality in Illinois during the last twenty years is traced. A striking contrast between conditions which prevailed in 1910, as reflected in mortality returns, and in 1933 is drawn. Statistical data are used to show that typhoid fever is now a problem chiefly of small communities and rural districts; that unrecognized carriers are the principal sources of origin; that milk and other foods are equal to or more important than water as the medium of transmission under present-day conditions. The paper is liberally illustrated with lantern slides.

Discussion opened by I. D. Rawlings, Chicago.

- 9:50—"Rheumatic Heart Disease in School Children."—Ray E. Logan, Galena.

Rheumatic heart disease fundamentally a problem of childhood. Economically a serious potential loss. Pro-

gressiveness and chronicity. Consideration of incidence and prevalence. Comparison to problem of tuberculosis.

The basis plan of care of "Cardiac" children in Detroit schools. Comparative analysis from observation, i. e., heredity, infectious nature, infective foci, rheumatic recurrences, exercise, school work, etc. Meeting the psychological problem of heart disease in children.

The school plan—a fad? Is there a need for more interest from health department and schools? Do mortality and morbidity tables show improvement?

Discussion opened by Gerald Cline, Bloomington.

- 10:15—"Dark Field Diagnosis of Infectious Syphilis."—H. E. McDaniels.

The present facts on the relative curability of early and later stages of syphilis are summarized. Methods for the early diagnosis of syphilis, and the advantages of darkfield tests are pointed out. A mailable outfit is described which enables the physician to collect chancre fluid and send it to a central laboratory. Results of controlled tests, with specimens mailed in this outfit, are presented and discussed.

Discussion opened by Andy Hall, Mt. Vernon.

- 11:00—Adjournment for Oration in Surgery.

---

*Wednesday Afternoon, May 16, 1934*

- 2:30—"Methods and Results of Nutrition Work in the Schools."—Gottfried Koehler, Springfield.

Weighing and measuring of all grade school children at beginning of each semester. Monthly weight records kept of children found ten per cent. or more underweight. Physical examination of such underweight children. Percentage of underweight children gained, lost and stationary at end of each semester. Examination of children who failed to gain.

Educational work relative to diet and nutrition. Home calls and check on food supplies of indigent families. Milk Fund for supplying milk to families who cannot afford to purchase the necessary supply. "Borderline" cases supplied with milk.

Oatmeal feeding at two schools. Noonday lunches at some parochial schools.

Value of rest, as demonstrated with a group of children assembled in a Noonday Health Class, also at Fresh Air School.

Discussion opened by J. H. Pollard, Evanston.

- 2:55—"The Veterinarian's Viewpoint of Undulant Fever."—W. H. Welch, Lexington.

Bang's disease is the most important economic problem facing the livestock industry. Methods used to eradicate disease from dairy herds reviewed along with plan of establishing clean herds. Undulant fever in man is acquired more readily by skin contact than through ingestion by mouth. The disease has been found in butchers, slaughter and packing house em-

ployees, laboratory workers, farmers, dairymen, veterinarians, physicians, nurses, and housewives handling and dressing infected poultry and game, raw pork or beef, etc.

Discussion opened by E. H. Marquardt, Bloomington.

3:20—"Diphtheria Immunization in Private Practice."—King G. Woodward, Rockford.

Report of five years' experience of diphtheria immunization in private practice illustrated with lantern slides. Reactions, results and Schick reports with toxin-antitoxin and toxoid. Diphtheria cases following immunization. Importance of Schick test following suggested means for practitioners to educate the public to have children immunized. Kind of material and number of injections advised. Report of local annual campaign methods used and results obtained.

Discussion opened by Archibald Hoyne, Chicago.

3:45—"Visual Education in Medicine."—Tom Jones, Chicago.

Growth of visual education over other forms of teaching; importance in modern age. Charts, dioramas, models and motion pictures (good and bad examples demonstrated on screen). Growth of graphic exhibits—value in lay and professional teaching. Methods of preparing illustrations for published material—right and wrong kind of pictures. Statistical material and radiographs; methods of presentation.

Discussion opened by B. K. Richardson, Springfield.

4:10—"Malignant Tertian Malaria, Report of a Small Epidemic."—H. J. Ireland, and M. G. Bohrod, Peoria.

Report of an epidemic of virulent tertian malaria in Peoria, Illinois. In a series of 29 cases (27 spontaneous, 2 inoculated) there were 8 deaths (both of the inoculated) six necropsies. Relation of the epidemic to spring flood. Deaths in the acute stage of tertian malaria are very rare. When tertian malaria is virulent enough it resembles the malignant estivo-autumnal type both symptomatologically and pathologically. The dangers of inoculated malaria during severe epidemics.

Discussion opened by Lloyd Arnold, Chicago.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Eye, Ear, Nose and Throat, and Radiology.

9:00—"Generalization Concerning Cardio-Vascular Diseases."—Robert B. Preble, Chicago.

A generalization expresses something more than averages but less than 100%. Omitting the less common diseases of the heart, the differences in incidence, etiology, methods of diagnosis, prognosis and therapy will be pointed out and contrasted.

9:40—"Relation of Animal Hygiene to Public Health."—Robert Graham, Urbana.

This paper represents the viewpoint of an experienced veterinarian in the important field of animal hygiene and its relationship to certain human diseases. Those animal diseases most frequently encountered in Illinois will be discussed.

10:00—"Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen, Chicago.

Twelve chronic fecal carriers of *B. typhosus* in the city of Chicago have received a series of from three to sixteen x-ray exposures over the liver region during the past two years in an attempt to cure them of their carrier state. One-third of the cases have been rendered *B. typhosus* free for periods varying from ten to twenty-four months; one-third have evidenced a reduction in the total *B. typhosus* output in the stool, and one-third showed no change whatsoever. The results obtained are encouraging enough to warrant further study—and x-ray therapy is recommended to health agencies as a possible means of controlling the carrier state.

Discussion opened by Lloyd Arnold, Chicago.

10:20—"The Present Status of Ocular Surgery." (Motion picture demonstration.)—Oscar B. Nugent, Chicago.

10:40—"Fractures of the Nose." (Motion picture demonstration.)—Austin A. Hayden, Chicago.

11:00—"Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

The writer presents a comprehensive classification of intra-articular, extra-articular and combined lesions of the knee joint with an analysis of approximately one hundred fifty operations from his service at Cook County and Michael Reese Hospitals.

Lesions of the menisci are divided into two large groups and the various types of lacerations of each meniscus are illustrated.

The technic of excision of the menisci is described and illustrated. The post-operative treatment has been simplified.

Arthroplasty, arthrodesis, reconstruction of ligaments and bone reconstruction operations are included.

The writer also describes epiperiosteal and paraligamentous ossifying hematoma (so called Pellegrini-Stieda's disease) involving the medial condyle of the femur.

Discussion opened by Philip H. Krenscher, Chicago.

#### SECTION ON RADIOLOGY

Robert A. Arens, *Chairman*. . . . . Chicago  
F. Flinn, *Secretary*. . . . . Decatur

#### *Tuesday Afternoon, May 15, 1934*

Joint session with Sections on Medicine, and Public Health and Hygiene.



## SYMPOSIUM ON PNEUMONOCONIOSIS

- 2:45—1. "The Function of the State Department of Health in the Control of Pneumoconiosis."—Frank J. Jirka, Director, Springfield.

The part the State Department of Public Health plays in the control of pneumoconiosis will be discussed. The broader aspects of the problem will be covered from the viewpoint of an administrative health officer. Some newer knowledge of dust hazards will be reviewed.

- 3:05—2. "Laboratory Methods for Determining Atmospheric Pollution Causing Pneumoconiosis."—C. O. Sappington, Chicago.

Pneumoconiosis as a recent industrial problem. Definition and application of terms specifically applied to the scope of this paper. Difficulty of establishing casual relationships and the necessity for objective data related to environmental exposure.

The hygienic survey and occupational analysis as the initial step of investigation before the adequate application of laboratory methods can be accomplished. The four exposure factors: (a) concentration of dust; (b) particulate size distribution; (c) mineralogical composition; (d) period of occupational exposure. Description of technique. Comparison of findings with typical experiences to attain measure of severity. Necessity of correlation with clinical findings. Interpretation of present applicability of methods with comments and conclusions.

- 3:25—3. "The Health of Workers in Dusty Trades."—R. R. Sayers and J. J. Bloomfield, Washington, D. C.

The studies conducted during the past few years on the health of workers in certain dusty trades in the United States are discussed briefly in the present paper. Among the dusty trades included are: granite cutting, cement manufacture, hard rock mining, rock excavation in cities, sandblasting, the abrasive industry, and slate and talc mining and milling.

The technique involved in conducting dust studies in industry is described—clinical, roentgenological, statistical, and workroom environmental studies, especially with reference to the determination of the quantity, nature, and size of industrial dusts present in the industrial atmosphere. In addition, the methods used in the control of the dust hazard are presented in this paper.

- 3:45—4. "Clinical Findings in Pneumoconiosis."—Jerome R. Head, Chicago.

There are no symptoms and no physical findings which are diagnostic of pneumoconiosis. A history of exposure, a characteristic roentgenogram and the absence of other conditions which can simulate it are essential to the diagnosis. The only symptoms of uncomplicated pneumoconiosis is shortness of breath. When complicated by bronchitis, cough and occasional

pleuritic pains are added. When tuberculosis supervenes, as it does frequently, the symptoms are those of the complicating disease. The most important clinical findings are a reduced vital capacity and a limited chest expansion. Terminal failure of the right heart may give cyanosis and congestion. Pleurisy with effusion and spontaneous pneumothorax are occasional complications. The condition must be differentiated from pulmonary tuberculosis, heart disease, miliary carcinosis, miliary tuberculosis and certain rare forms of miliary fungus infections.

- 4:05—5. "Pathology in Pneumoconiosis."—Richard H. Jaffee, Chicago.

Generally speaking there are four different types of pulmonary lesions which are caused by the inhalation of irritating dust, namely, the lymphangitic type, the nodular-nodose type, the sclerosing type, and the ulcerative type. The lymphangitic type is characterized by the accumulation of the dust particles in the perivascular lymph spaces, and is found chiefly in anthracosis. In the nodular nodose type there are pinpoint to pea sized nodules scattered throughout the lungs which are composed of a very dense connective tissue. In the sclerosing type large portions of the lung become replaced by a very firm and scar-like connective tissue. The last type shows cavities which are usually small, are lined by a shaggy, deeply pigmented tissue and are filled with an ink-like fluid. These cavities have nothing to do with the action of bacteria. The most irritating type of dust is silica dust, and the most severe lesions in the lung are encountered in silicosis.

- 4:25—6. "Radiographic Visualization of Fibrosis Produced by Dust Inhalation."—F. Flinn, Decatur.

---

*Wednesday Morning, May 16, 1934*

- 8:30—Chairman's Address. Robert A. Arens, Chicago.

- 9:00—"Present Day Tendencies in Radiation Therapy, with a Discussion of the Questionable Values of Increased Voltage."—Roswell T. Pettit, Ottawa.

It is the purpose in this discussion to point out the possible fallacy of increased voltage above 200,000 kilovolts. There is much to be gained as far as depth dose, penetration and shortening of the wave length by the increasing of the patient target distance and by increasing filtration. By these methods depth dose can be increased as satisfactorily as by increasing the voltage and at decidedly less expense. All of the experimental evidence at hand would indicate that effective radiation, whether it be from x-rays of various wave lengths or from the gamma rays of radium of various wave lengths depends not upon the degree of penetration but rather by absorption. As yet no specific biologic effect of shorter wave lengths has been demonstrated. In fact, all of the evidence points

against there being a specific biologic reaction dependent upon wave length.

Discussion opened by Robert A. Arens, Chicago; Walter G. Bain, Springfield.

9:30—"Clinical Values of X-Ray of the Urological Tract of Childhood."—John R. Vonachen, Peoria.

Necessity for cooperation between Pediatrician, Urologist, and Roentgenologist. Frequency of occurrence of pathology in Juvenile urinary tract. Type of pathology similar to that found in the adult. Diagnosis impossible without the aid of Roentgenograms. Common occurrence of anomalies and their role in the production of symptoms. Treatment directed to the correction of the underlying pathology.

Discussion opened by E. L. Jenkinson, Chicago; L. M. Hilt, Springfield.

10:00—"The Aid of the X-Ray in the Diagnosis of Breast Tumors."—I. H. Lockwood, Kansas City, Missouri. (By Invitation).

Roentgenograms may establish the presence or absence of a mass often before the disease is clinically apparent. It may define its mammary or axillary extensions; reveal both benign and neoplastic changes and the transition of a benign into a malignant lesion; depict those changes characteristic of the spread of carcinoma along the connective tissue septa; offers a permanent record of the findings and is a means of serial study of the changes in the breast.

Discussion opened by B. H. Orndoff, Chicago; Fred H. Decker, Peoria.

10:30—"X-Ray and Radium Treatment of Cancer of the Breast."—Gentz Perry, Evans-ton. (Technique illustrated with motion picture films.)

Discussion opened by B. C. Cushway, Chicago; Henry L. Grote, Bloomington.

11:00—Adjournment for Oration in Surgery.

*Wednesday Afternoon, May 16, 1934*

2:30—"Radiotherapy and Electro-Surgery in the Treatment of Cancer of the Breast."—Benjamin H. Orndoff, Chicago.

1. Preoperative radiotherapy is advised in all cases of malignancy of the breast.

2. Breast surgery in malignancy is a field in which only electro-surgery should be instituted.

3. Post-operative radiotherapy is advised in all cases, but the technic varies in respect to the operative work done and the character of the malignant involvement.

4. Cases where surgical intervention is undesirable are becoming rare, but there is a small group in this class where primary involvement has extended to a point where only palliative treatment by radiotherapy is indicated.

Discussion opened by Perry B. Goodwin, Peoria; M. J. Hubeny, Chicago.

3:00—"Radiation Therapy of Gas Bacillus Infection."—J. J. Faust, Decatur.

Report on treating cases with gas gangrene bacillus by x-ray therapy. The technic used is within the limits of most small radiographic units. The cases are discussed in detail, including other treatment.

Discussion opened by I. S. Trostler, Chicago; J. H. Finch, Champaign.

3:30—"Bone Metastases from Malignancy of the Prostate and Roentgen Study of the Various Types."—Harry Olin, Chicago.

Bone metastasis from malignancy of the prostate is a relatively common sequel, and emphasis is placed upon its frequent occurrence in the conditions of hypertrophy and enlargement of the gland, as seen in benign hypertrophy, adenoma, and carcinoma. Various statistics of Young and others are quoted to place before the reader the fact that bone metastasis is common; that every contemplated examination of men past forty, whether for pre or post operative study or health examination merits a routine flat plate of the genito-urinary tract to determine osseous metastases and other related pathology. The following types of bone metastases from primary carcinoma of the prostate are presented: 1. Osteoplastic; 2. Osteoclastic; 3. Combined osteoplastic and osteoclastic; 4. Multiple solitary sclerosing lesions. To these types mentioned, invasion of the lymphatic glands and viscera may occur, though rarely, without gross bone metastases.

Discussion opened by Fred S. O'Hara, Springfield; M. I. Kaplan, Chicago.

4:00—"A Modified Technique for Suspected Gall Bladder Disease."—Adolph Hartung, Chicago.

It is intended to review briefly the more or less standard procedures in vogue at present and describe the modification suggested. This consists essentially of a combination of the Graham-Cole test with a fat and an opaque meal. Its advantages are to be discussed and series of cases in which the findings have been checked operatively are to serve as a basis for recommending the method.

Discussion opened by Ivan Brouse, Jacksonville; David Beilin, Chicago.

4:30—"Chronic Cicatrizing Enteritis." (Regional Ileitis). B. C. Cushway, Chicago.

A lesion presenting a specific clinical entity with definite pathology and symptomatology. A type of tumor which at operation simulates malignancy very closely, but which is really of an inflammatory nature. The condition has been definitely recognized as not being carcinoma, lymphocarcinoma, Hodgkin's Disease, Tuberculosis or diverticulitis. The condition is characterized by a chronic cicatrizing inflammation of the wall of the bowel. There is a resulting stenosis of the bowel lumen with an occasional fistula formation and



usually a tumor mass in the right lower quadrant. This condition is of interest to the radiologist because of the difficulty in differentiating the filling defect from malignancy or tuberculosis.

Discussion opened by Robert A. Arens, Chicago; Harry Olin, Chicago.

5:00—"The Role of the X-Ray in Industrial Hygiene."—Paul Dick, Chicago.

On account of the filing of so many damage suits against industry for injuries and occupational diseases and a general tendency to increase the number of these damage suits, it is thought that entrance examinations should include x-ray examinations of different types as a permanent record. Such a procedure would produce beneficial results to all parties concerned.

Discussion opened by T. D. Cantrell, Bloomington; George M. Landau, Chicago.

#### *Thursday Morning, May 17, 1934*

Joint session with Sections on Medicine, Surgery, Eye, Ear, Nose and Throat, and Public Health and Hygiene.

9:00—"Generalization Concerning Cardio-Vascular Diseases"—Robert B. Preble, Chicago.

A generalization expresses something more than averages but less than 100%. Omitting the less common diseases of the heart, the differences in incidence, etiology, methods of diagnosis, prognosis and therapy will be pointed out and contrasted.

9:40—"Relation of Animal Hygiene to Public Health."—Robert Graham, Urbana.

This paper represents the viewpoint of an experienced veterinarian in the important field of animal hygiene and its relationship to certain human diseases. Those animal diseases most frequently encountered in Illinois will be discussed.

10:00—"Treatment of Chronic Typhoid Carriers."—Lars Gulbrandsen, Chicago.

Twelve chronic fecal carriers of *B. typhosus* in the city of Chicago have received a series of from three to sixteen x-ray exposures over the liver region during the past two years in an attempt to cure them of their carrier state. One-third of the cases have been rendered *B. typhosus* free for periods varying from ten to twenty-four months; one-third have evidenced a reduction in the total *B. typhosus* output in the stool, and one-third showed no change whatsoever. The results obtained are encouraging enough to warrant further study—and x-ray therapy is recommended to health agencies as a possible means of controlling the carrier state.

Discussion opened by Lloyd Arnold, Chicago.

10:20—"The Present Status of Ocular Surgery." (Motion picture demonstration.)—Oscar B. Nugent, Chicago.

10:40—"Fractures of the Nose." (Motion pic-

ture demonstration.)—Austin A. Hayden, Chicago.

11:00—"Internal Derangements of the Knee Joint."—David H. Levinthal, Chicago.

The writer presents a comprehensive classification of intra articular, extra-articular and combined lesions of the knee joint with an analysis of approximately one hundred fifty operations from his service at Cook County and Michael Reese Hospitals.

Lesions of the menisci are divided into two large groups and the various types of lacerations of each meniscus are illustrated.

The technic of excision of the menisci is described and illustrated. The post-operative treatment has been simplified.

Arthroplasty, arthrodesis, reconstruction of ligaments and bone reconstruction operations are included.

The writer also describes epiperiosteal and paraligamentous ossifying hematoma (so called Pellegrini-Stieda's disease) involving the medial condyle of the femur.

Discussion opened by Philip H. Kreuscher, Chicago.

#### RULES GOVERNING PRESENTATION OF PAPERS

All papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section when read and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

All subjects shall be confined strictly to the subject in hand.

No paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

(From the By-Laws of Illinois State Medical Society.)

#### EXHIBITORS AT 1934 ANNUAL MEETING

Charles C. Thomas, Springfield.

Sharp & Smith, Chicago.

Medical Protective Company, Wheaton.

V. Mueller & Company, Chicago.

J. B. Lippincott Company, Philadelphia, Pennsylvania.

Ellis Research Laboratories, Chicago.

A. S. Aloe Company, St. Louis, Missouri.

Abbott Laboratories, North Chicago.

White-Haines Optical Company, Columbus, Ohio.

Kellogg Company, Battle Creek, Michigan.

Gerber Products Company, Freemont, Michigan.  
 Mead Johnson & Company, Evansville, Indiana.  
 Horlick's Malted Milk Corporation, Racine, Wisconsin.

S. M. A. Corporation, Cleveland, Ohio.  
 Mellin's Food Company, Boston, Massachusetts.  
 Merck & Company, New York City, New York.  
 DePuy Manufacturing Company, Warsaw, Indiana.  
 General Electric X-Ray Corporation, Chicago.  
 Illinois Surgical Supply Company, Chicago.  
 Universal Products Corporation, Pottstown, Pa.  
 C. B. Fleet Company, Lynchburg, Va.  
 American Medical Association, Chicago.  
 Illinois Department of Public Health, Springfield.  
 Illinois Tuberculosis Association, Springfield.  
 American Society for the Control of Cancer, New York City, New York.

The West Suburban Hospital, Oak Park.  
 The Methodist and St. Francis Hospitals, Peoria.  
 E. P. Sloan—The Sloan Clinic, Bloomington.  
 Leon Unger, Chicago.  
 Cleveland J. White, Department of Dermatology,  
 Northwestern University, Chicago.  
 The Elgin State Hospital, Elgin.  
 The Arthritis Club of Chicago, Chicago.  
 Samuel M. Feinberg, Chicago.  
 Groves B. Smith, Beverly Farm, Godfrey.  
 Drs. Woodruff—Woodruff Clinic, Joliet.  
 Harold Swanberg and Arthur E. Perley, Quincy.

#### NOTES ON EXHIBITS

The A. S. Aloe Company will be represented by an exhibit in Booth No. 53. Featured items will be the Dr. Charles Robert Elliott Treatment Machine for the Elliott heat treatment of pelvic inflammation, and Stille Rustless Instruments at a discount. In addition, a general line of surgical instruments and supplies will be shown.

The Medical Protective Company will be an exhibitor in Booth No. 3. Our representatives will be there to greet old friends and to make new ones. Ask us about the only service of its kind. Let us tell you why a doctor can have better liability protection than is available to any other class.

Sharp & Smith will have their usual Booth, No. 2, at the Illinois State Medical Convention, in charge of Mr. Lewis Frazin.

It will comprise a complete selection of instruments and such other specialties as are of interest to all of the medical profession.

We hope you will find a few moments of your valuable time to inspect the many interesting features of the Sharp & Smith exhibit.

Visitors at the Gerber Products Booth No. 18 will be shown the Gerber's Strained Cereal, Vegetables and Prunes and given any information desired concerning the special process used in the manufacture of these products.

Booklets are available. One on infant feeding is intended for distribution by physicians to mothers and contains help on the technique of feeding without giving definite feeding directions. There are several publica-

tions on the use of these products in therapeutic diets, some for professional use only and others for general distribution.

Charles C. Thomas, Publisher, of Springfield, Illinois, and Baltimore, Maryland, will exhibit in Booth No. 1, standard medical texts and reference books, including such new items as Moore's Modern Treatment of Syphilis, Grinker's Neurology, Glasser's The Science of Radiology, Homans' Surgery (2nd edition), Dandy's Benign Tumors in the Third Ventricle of the Brain, Fischer and Hooker's The Lyophilic Colloids, Franklin's Hieronymus Fabricius of Aquapendente, Glasser's Wilhelm Conrad Rontgen, Pusey's History and Epidemiology of Syphilis, Thoma's Clinical Pathology of the Jaws, Mackenzie's Clinical Miscellany, Phelps and Kipthuth's Diagnosis and Treatment of Postural Defects, Bailey's Intracranial Tumors.

The Mellin's Food Company has recently made available to physicians a new formula card for infant feeding which will be shown in their exhibit in Booth No. 14. This card has been prepared after extensive conferences with many authorities and is based on their collective opinions. The Mellin's Food Company believes that the formulas and other suggestions are in accord with current scientific knowledge and practice and represent safe and adequate feedings for average normal infants. Their distribution is limited to physicians, as is all the Company's advertising.

The J. B. Lippincott Company will exhibit in Booth No. 8 an unusual line of new and standard medical, surgical, pharmaceutical and nursing books. Among the most outstanding is Peham and Amreich—"Operative Gynecology"—in two volumes. This atlas is beautifully and extensively illustrated by large drawings showing each operation step by step. Practically all of them are beautifully and accurately colored.

Kirschner—"Operative Surgery," in two volumes. This book immediately became known as "The Color Surgery" because of the wealth of detailed colored illustrations. It contains a great number of items that cannot be found in any other Operative Surgery and is well worth the most careful scrutiny.

There is a new edition of the well-known doctor's time saver, Lippincott's Quick Reference Book and an entirely new and most inexpensive work on "The Treatment of the Commoner Diseases," by Lewellys F. Barker, and the new idea in personal post-graduate work instruction at home supplied from the Pittsburgh Diagnostic Clinic as a Supplement to the famous International Clinics.

In the nursing field there is an entirely new work by Solomon on "Pharmacology, Materia Medica and Therapeutics for Nurses" and a number of new editions of the standard nursing texts.

S. M. A., the well known antirachitic breast milk adaptation, will be featured at the display of S. M. A. Corporation, Booth No. 20.

Powdered Hypo-Allergic milk for milk-sensitive individuals will be another feature.

Alerdex, the protein-free maltose and dextrans, which is coming into constantly greater favor for routine use



as a prophylactic against cereal eczemas, will also be displayed.

Crystalline carotene, so rare in 1930 that only a few men in the whole world had seen it, will be available, is well worth seeing.

Mead, Johnson & Company will have on exhibit in Booths No. 12 and 13 its complete line of infant diet materials including Mead's Dextri-Maltose, Mead's Newfoundland Cod Liver Oil, Mead's Viosterol in Oil—250 D, Mead's 10 D Cod Liver Oil, Mead's (A-D) Viosterol in Halibut Liver Oil—250 D, Mead's Halibut Liver Oil, Mead's Brewers Yeast Powder, Mead's Brewers Yeast Tablets, Pablum, Mead's Cereal, Sobee, Mead's Powdered Protein Milk, Mead's Powdered Lactic Acid Milk, Powdered Whole Milk, Alacta, Recolac and Casec.

There will also be for the examination of physicians a complete line of Mead's services such as diets for older children, height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired.

Representatives will be on hand to meet their friends and to discuss the application of any of the Mead products to infant feeding problems.

The exhibit of the White-Haines Optical Company, distribution of Blue Ribbon Ophthalmic Supplies with Springfield offices located at 526 East Capitol Avenue, will feature the latest developments of Optical Science. Included in the exhibit will be a demonstration of the method of mounting Loxit, a screwless construction type of rimless glasses. Lenses to be featured and explained are the Panoptik Bifocal (including the improved cataract lens), the Orthogon Soft-Lite lens that provides glare protection with wide vision correction, and the improved Balcor toric lens. A particularly interesting section of the exhibit will be the display of Bausch & Lomb instruments, including the new Clason Visual Acuity Meter, the Binocular Ophthalmoscope, the Slit Lamp, the new Tangent Screen and other equally interesting instruments. The White-Haines exhibit will be in charge of E. F. Wildermuth, general sales manager from Columbus, Ohio, Joe Kihn, manager of White-Haines, Springfield, and Donald Hunter, representative. Be sure to see the White-Haines exhibit in Booth No. 17 if you are doing eye work.

Interesting displays at the Kellogg Booth, No. 11, show the amounts of combined minerals and of iron alone which are found in Kellogg's All-Bran. Reprints of recent research on bran are available. Visiting physicians will be interested, too, in a display of the amount of caffeine which is removed from the coffee beans to make one pound of Kellogg's Kaffee Hag Coffee (97 per cent. caffeine free), and of the amount of caffeine ordinarily present in one cup of coffee. Kaffee Hag Coffee will be served at the booth.

Winifred B. Loggans, from the Home Economics Department, will be in charge.

From the Research Laboratory of the General Electric X-Ray Corporation, a new Shock Proof Portable X-ray Unit, weighing but 20 pounds, has been developed. The x-ray tube and transformer are immersed in oil

and sealed in one container. This x-ray unit, in its carrying case, weighs about 40 pounds and is operable by connection to the usual electric outlet.

Another new product is the Inductotherm, a starting new development for creating heat in the tissues. It is a vacuum tube oscillator, generating an alternating current of 12,000,000 cycles per second. No body electrodes required.

The Microsurgical Diathermy Unit, with micrometer control, an ideally specialized instrument for electro-coagulation and fulguration, will be on display. Also the Victor Electrosurgical Unit, spark gap type, a machine having two separate and distinct high frequency oscillating circuits for cutting and coagulation effects respectively, will be shown.

Horlick's Malted Milk Corporation, in Booth No. 19 will exhibit Horlick's the Original Malted Milk and Horlick's Malted Milk Tablets, both products in natural and chocolate flavors. Recent experiments have shown that the regular use of Horlick's not only definitely improves the appetite but also builds strength and resistance to colds and other diseases.

V. Mueller & Company cordially invite you to visit their exhibit in booths 4 and 5.

Among the many newer instruments to be shown will be the DeBaakey-Gillentine Simplex Blood Transfusion Apparatus and the new Intestinal Anastomosis Clamp which was recently designed by Dr. H. D. Furniss.

Ellis Research Laboratories will exhibit the Ellis Micro-Dynamometer, an instrument which embodies a galvanometric method for indicating variations in the concentration of electrolytes in the body directly—a new factor in diagnosis. Booth No. 9.

Abbott Laboratories are featuring Nutritional factors including HALIVER OIL PRODUCTS and the new TUNIVER OIL (rich in natural Vitamin "D").

Clinical, Sales and Research men in attendance welcome friendly discussion of your problems. There are many Abbott products which may be of value to you in treating difficult cases.

The Abbott Line merits your investigation in view of the large amount of intensive research being done and the number of Council Accepted items to its credit. Booth No. 10.

DePuy is pleased to submit for your approval a new DePuy Cervical Splint, Campbell Aeroplane Splint, DePuy Kirschner Wire and Bone Drill, Rocking Leg Splint so convenient for bed pan service and the DePuy Portable Fracture Table, which fits an X-ray table, examining table or fluoroscopic table. It occupies a small space and is economical. Booth No. 15.

The Surgeon's "X-L-Lyte" displayed by the Universal Products Corporation, of Pottstown, Pa., will meet with the approval of all physicians, as it is a compact, electric diagnostic set, at low cost, contained in a neat, leather zipper case. This unique inexpensive diagnostic light has an otoscope, tonsil pillar retractor, tongue depressor, ansal speculum, and magnifying lens, and is also well adapted for transillumination. See this interesting diagnostic case, and you will want one. Booth No. 50.

The American Medical Association will have an

exhibit featuring:

1. The History of the American Medical Association.
2. The Organization of the American Medical Association.
3. Hospital Service in the United States.

The exhibit will show many of the things the American Medical Association is doing and what it means to the physicians of this country to affiliate with this greatest of all professional organizations.

Drs. Woodruff and Woodruff Clinic, Joliet, will show an interesting lot of pictures in color of certain types of eye injuries.

1. Puncture of cornea with thorn, causing abscess in the Vitreous. Loss of the eye.
2. Puncture of thorn showing Hypopion. Recovery.
3. Scratch of the cornea at the limbus. Showing prolapse of iris. Recovery with normal vision after iridectomy and Conjunctival flap.
4. Bloodstain of the cornea from an injury from the branch of a tree.
5. Vegetable foreign bodies in the conjunctiva.
6. Abrasion of Cornea from a spine from a burr.
7. Irido-dyalisis—Luxated lens and hemorrhage in the vitreous from concussion wound.
8. Lens luxated downward from concussion wound. Optical iridectomy with 20/30 vision with lens.
9. Cornea peppered with fine dust from an explosion of basket ball.
10. Sclera cut with glass from a glass front being broken by a base ball. Phthisis Bulbi.

Dr. Cleveland J. White, of the Department of Dermatology, Northwestern University Medical School, will show a series of photographs and charts illustrating the clinical findings, complications, sequelae, laboratory findings and therapeutic resume of a large series of cases of superficial fungus infections of the skin, nails and mucous membranes. Cultures of the ordinary causative fungi will also be shown.

Interesting information concerning Cancer will be given in the exhibit of the American Society for the Control of Cancer, which will be presented under the direction of Dr. Frank L. Rector, of Evanston. Complete details will appear in the Official Program.

The Illinois Department of Public Health will have a demonstration of the Dick and Schick tests, giving practical demonstrations during the meeting on patients, for the information of the members at the meeting. This work will be in charge of physicians and nurses from the State Health Department, who will be prepared to give any information that is desired on the subject. A new exhibit of five units on industrial hygiene will be shown. This display illustrates health dangers from occupational hazards, and methods of minimizing the risks in these industrial hazards.

Dr. Leon Unger, Chicago, will feature in his exhibit the subject of Allergy. Demonstration skin tests will be made on patients during the meeting. Mounted specimens of different hay fever plants and weeds will

be shown and one hundred or more materials causing bronchial asthma will be demonstrated.

"Special occupational relationships in the mental defects" will be featured in the exhibit of Dr. Groves B. Smith, of Beverly Farm, Godfrey. Motion pictures demonstrating various occupational relationships in the training of mental defectives and correlating mental age levels with clinical types will be shown.

The exhibit of the Illinois Tuberculosis Association will be comprised of forty six interesting and unusual x ray films relating to diseases of the lungs. The films are to be displayed by courtesy of the Macon County Tuberculosis Sanatorium and will be selected by Dr. D. O. N. Lindberg, Medical Director of the Sanatorium. The resident physician of the Macon County Tuberculosis Sanatorium, Dr. Forrest R. Martin, will be present at the exhibit from 10.00 to 12.00 on Tuesday morning, and from 2.00 to 4.00 on Wednesday and Thursday to explain any of the films or answer questions pertaining to them for physicians especially interested in the subject.

E. P. Sloan, of the Sloan Clinic, Bloomington, will have a pathologic exhibit showing the many types of goiter, and also show an interesting picture exhibit, 24 of these showing "Steps in thyroidectomy,"—14 on "anatomy of the neck." The Sloan upper abdominal incision will also be shown in the exhibit which will be under the direct charge of Dr. B. Markowitz, of the Sloan Clinic.

The exhibit of the St. Francis and Methodist Hospitals, of Peoria, is divided into two parts.

- 1st. Pathology of diseases of the heart.
- 2nd. Pathology of acute, fatal malaria.

This exhibit under the personal direction of Dr. M. G. Bohrod, will show many pathological specimens illustrating the above, and at regular intervals throughout the meeting, Dr. Bohrod will give fresh tissue demonstrations to those interested in these subjects.

Radiation Therapy is the general theme of the exhibit of Drs. Harold Swanberg and Arthur E. Perley of Quincy. The exhibit will attempt to show the results of radiation therapy in modern medicine, special emphasis being placed on the use of radium. A modification of the Regaud (Paris) technic of treating carcinoma of the uterine cervix with radium will be demonstrated.

The West Suburban Hospital, Oak Park, will show an extensive exhibit this year, as follows.

1. Eye Tumors, Dr. Georgiana D. Theobald.
2. Pathology, Dr. Eugene C. Piette.
3. Demonstration of continuous post-operative Gastric Lavage, Dr. W. J. Potts.
4. Allergy in Dermatology, Dr. Cleveland J. White.
5. Demonstration of x-ray films, Dr. F. J. Ronayne.

Attendants will be present at this exhibit continuously throughout the meeting, to show the above demonstrations.

Dr. Samuel M. Feinberg, Chicago, will have among the interesting features of his exhibit colored drawings of allergic reactions on the skin and in the eye.



Mounted hay fever plants. Important allergens in their raw state. Interesting charts. Demonstration of diagnostic tests on patients.

The Elgin State Hospital, under the direction of the managing officer, Dr. Charles F. Read, will show an interesting film entitled "Recovery," which portrays the various types of treatment used in a modern state hospital. This is an interesting and informative film,

which will be of interest to all physicians. The exhibit will also include a Balopticon display, which will run continuously.

The Arthritis Club of Chicago will have an arthritis exhibit, featuring many of the interesting features of this common disturbance. Among the features of this exhibit there will be shadow box displays of interesting cases and x-ray film demonstrations.

## POINTS OF INTEREST IN SPRINGFIELD



Lincoln Tomb



Capitol Building



K. C. Building



Supreme Court Building

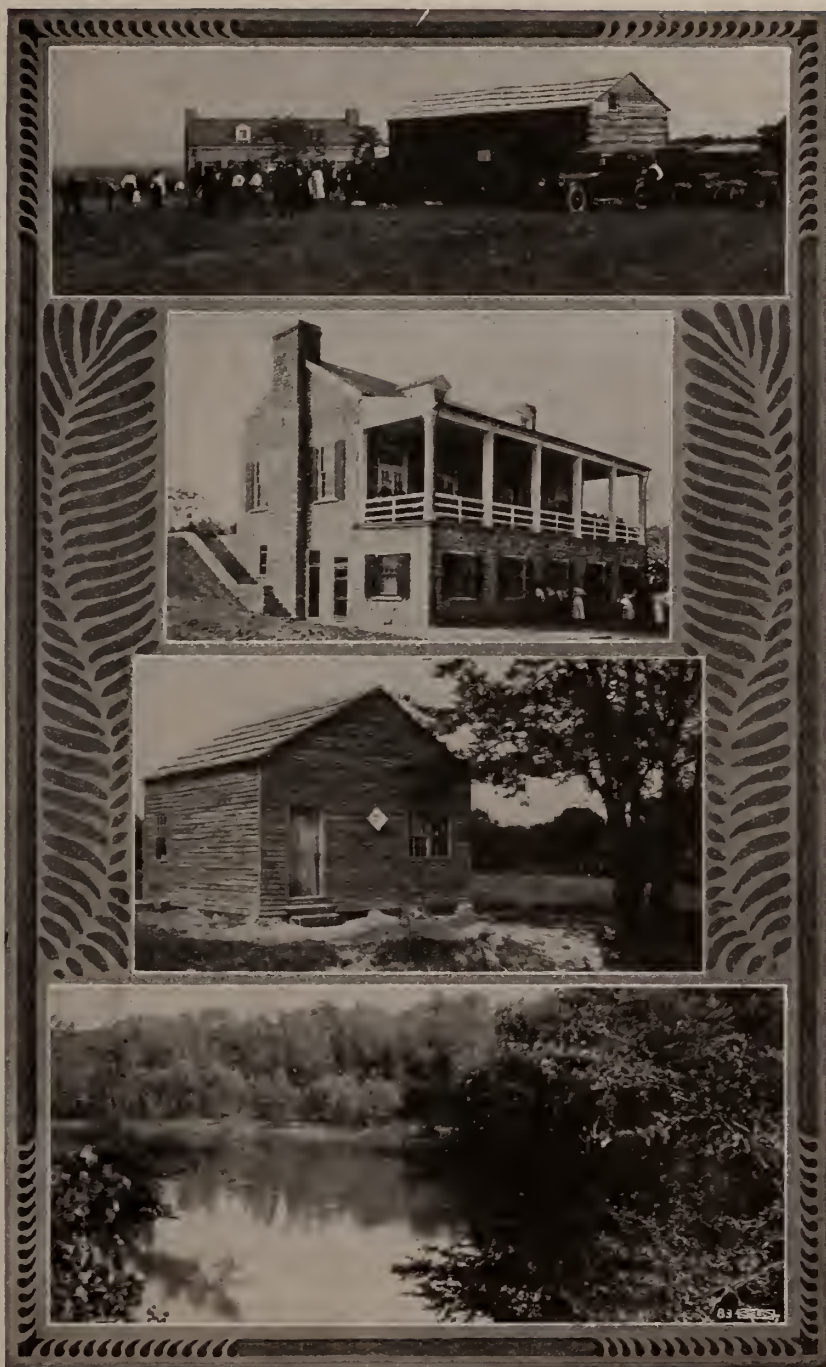


Lincoln Home



Centennial Building





Views of Old Salem



Pumping and Generating Station—Top. Filter Plant—Middle. Outdoor Substation—  
Lower Right. One Million Gallon Booster Tank—Lower Left



## Correspondence

### OFFICIAL INVITATION OF THE SANGAMON COUNTY MEDICAL SOCIETY

Springfield, Illinois  
April 27, 1934

*To the Members of  
The Illinois State Medical Society.  
Dear Members:*

On behalf of the Sangamon County Medical Society, we take great pleasure in extending to all of you, an invitation to attend the Eighty-Fourth Annual Meeting of the Illinois State Medical Society, to be held at Springfield, on May 15, 16, 17, 1934.

The Host Society wishes to assure you that everything will be done while you are our guests, to make you feel at home and aid you in enjoying what we believe will be one of the outstanding meetings our Society has ever conducted.

Fraternally yours,

ARTHUR E. WALTERS, Chairman, Committee  
on Arrangements.

HARRY OTTEN, President, Sangamon County  
Medical Society.

HOMER P. McNAMARA, Secretary, Sangamon  
County Medical Society.

### A CORRECTION

Chicago, April 5, 1934.

*To the Editor:*

In my discussion of Dr. Louis Bothman's article which appeared in the March number on page 232 there are two references to the use of a pituitary product as treatment, which should read antuitrin, *not* antuitrin S.

Antuitrin S, the female sex hormone, has been added to the antuitrin in a few cases, but as a rule the antuitrin as an anterior pituitary product is all that is necessary.

Thanking you for making this correction for me.

Sincerely,

BEULAH CUSHMAN.

### MEDICAL STUDY TRIP TO HUNGARY

At the invitation of the Hungarian Medical Postgraduate Committee of Budapest, Professor Emil de Grosz, President, and of the Association "Budapest Town of Medicinal Springs," Archduke Dr. Joseph Francis, President, a medical study trip to Hungary is

being organized. The plans provide for a fortnight visit to Hungary during which there will be postgraduate lectures and demonstrations in English at the principal University clinics and at the municipal thermal baths and springs. Reduced railroad fares and hotel rates are granted by the Hungarian Government. The party will sail from New York on August 18, 1934, visiting Munich and Oberammergau en route. The return trip may be made, optionally, via Berlin, Paris, or Italy, arriving back in New York on September 30.

American physicians of good standing are invited to join. The American committee of the study trip consists of Harlow Brooks, M. D., Chairman, Charles G. Kerley, M. D., Jerome M. Lynch, M. D., Wendell C. Phillips, M. D., and Erwin Torok, M. D. Richard Kovacs, M. D., 1100 Park Ave., New York, is Secretary.

### THE BULLETIN OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

This Bulletin contains a number of short practical articles written by distinguished authorities in the field of cancer therapy and cancer research. It offers, at a subscription price of only \$1.00 per year, an easy and practical way for the physician to keep abreast of cancer control progress. A complimentary copy of the Bulletin will be sent to any physician requesting it from the American Society for the Control of Cancer, 1250 Sixth Avenue, New York City.

### ANNUAL MEETING OF THE CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

Knights of Columbus Building,  
Springfield, Illinois,

May 15, 1934

- 8:30 A. M. Annual business meeting and election of Officers.
- 9:30 A. M. Experience in the treatment of Essential Hypertension with X-ray.  
James Hutton, M. D.
- 10:00 A. M. Symposium on Silicosis  
William D. McNally, M. D., Carroll  
E. Cook, M. D., Josiah J. Moore,  
M. D., Lloyd Arnold, M. D.
- 12:30 P. M. Misinterpretation of X-ray films as applied to the Cervical Vertebrae and the Chest  
Leroy P. Kuhn, M. D.
- 12:50 P. M. Traumatic Cases of Special Interest  
By Members (ten minutes per subject.)
- 2:15 P. M. Adjournment for lunch.
- 2:45 P. M. Public Health Section.

### WOMAN'S AUXILIARY ILLINOIS STATE MEDICAL SOCIETY

ANNUAL MEETING—PROGRAM  
May 15, 16, 17, 1934

*Monday:*

1:30 P. M.—Registration, K. C. Building.

*Tuesday:*

- 9:00 A. M.—Registration.  
 10:00 A. M.—Board Meeting.  
 12:00 —Luncheon, Leland Hotel, Palm Room.  
 This delegates' luncheon is open to all  
 Auxiliary members and visitors.  
 2:00 P. M.—Business Session, Abraham Lincoln  
 Hotel.  
 4:30-6:00 P. M.—Tea, Governor's Mansion.  
 7:00 P. M.—Dinner and Bridge, Abraham Lincoln  
 Hotel.  
 Doctor Philip Kreuscher, Speaker.

#### Wednesday:

- 8:00 A. M.—Breakfast, Down State Board Mem-  
 bers hostesses to Chicago Board Mem-  
 bers, Abraham Lincoln Hotel.  
 9:00 A. M.—Business Session.  
 12:15 P. M.—President's Luncheon, Mrs. Lucius  
 Cole, Presiding.  
 Speakers:  
 Doctor R. R. Ferguson.  
 Doctor Walter L. Bierring, Presi-  
 dent-Elect American Medical As-  
 sociation.  
 Mrs. Solomon Jones, Retiring Presi-  
 dent.  
 Music—Mrs. A. E. Dale and Mrs. D.  
 J. Evans.  
 3:00 P. M.—Drive to Old Salem, Tea, invitation of  
 State Department of Public Health.  
 7:00 P. M.—President's Dinner of the Illinois State  
 Medical Society.

#### Thursday:

- 9:00 A. M.—Board Meeting.

---

### WOMAN'S AUXILIARY AMERICAN MEDICAL ASSOCIATION Cleveland, Ohio, June 11-15, 1934

---

#### TENTATIVE PROGRAM

- Monday, June 11:  
 Luncheon of Auxiliary Board at the Hotel Carter.  
 Dinner in honor of Past Presidents and Board at  
 Hotel Carter.  
 Tuesday, June 12:  
 Luncheon, Bridge and Style Show, Lake Shore Hotel.  
 Wednesday, June 13:  
 Auxiliary Luncheon at the Hotel Carter.  
 Thursday, June 14:  
 Luncheon at Country Club, Sight-seeing Tour.  
 "Bring-Your-Husband-Dinner"—Hotel Carter.  
 Friday, June 15:  
 Women's Golf Tournament, Wentwood Country Club.  
 Along with this social program, which is entirely in  
 the hands of the wives of the Cleveland members of  
 the American Medical Association, will go a program  
 of business planned and directed by the Auxiliary. The  
 reports to be heard and the business to be transacted  
 this year are of such import that the meeting will be of  
 exceptional interest to every Auxiliary member.

### THE INVENTOR OF THE FIRST FRACTURE TABLE

The man who twenty years ago invented the world's first orthopedic and fracture table and whose work has since won him renown throughout the civilized world, has now made an even greater contribution to his fellowman—and he has done it while bedridden at Glockner sanatorium in Colorado Springs, Colorado.

He is Dr. George W. Hawley of Bridgeport, Conn., who has been decorated by foreign countries and who is regarded as one of the world's authorities on fractures. He has been a member of the "fracture committee" of the American College of Surgeons ever since it was created. During the World War he was in charge of America's only bone and joint hospital in France.

Three years ago tuberculosis undermined Dr. Hawley's health and he was sent to Glockner sanatorium, which is at the base of Pike's Peak. Unable to carry on his practice, he converted his hospital room into a makeshift laboratory and from his bed directed experiments. Engineers traveled across the continent to confer with him in bringing out a new fracture table that combines the x-ray and fluoroscope with it for the first time in medical history.

The table is not yet in general use, but it is installed in some of the leading hospitals in India, Belgium, Philadelphia, New York City, Atlanta, Ga.; Sharon, Pa.; Washington, D. C.; Milwaukee, Wis.; Toledo, O.; Waukesha, Wis.; Elmira, N. Y.; Ogden, Utah and Glockner hospital in Colorado Springs where the original was perfected.

Guesswork in setting fractured bones has been entirely eliminated through the new table, which permits the surgeon to watch and guide the fracture ends during reduction, through the fluoroscope. He is not compelled to manipulate and attempt reduction blindly and then take radiographs to learn whether the operation is complete or a failure. In the past treatment of fractures required the help of many hands, extravagant of costly dressings and in instances the job had to be done over.

Formerly the patient was subjected to much pain and handling by being moved from the fracture table to the x-ray table. With the new combination table and x-ray the surgeon may take radiographs of any type of fracture at any time during the operation, regardless of the position of the patient. This is possible because of the design of the apparatus and the mobile, shock-proof x-ray unit. There is no danger to the patient nor the surgeon from possible shock. The table is of steel with top sections of plywood covered with bakelite, permitting free passage of the x-ray and eliminating graining of radiographs.

Doctors say the new table not only revolutionizes and simplifies handling of fracture cases, but is a more humane and more economical apparatus and procedure.

Dr. Hawley's table that was brought out twenty years ago is now in the Smithsonian Institute, Washington, D. C.

While Dr. Hawley has been at work on the new table he has been cured—seemingly a reward for his effort.



He has recently been released from the Colorado Springs hospital.

# PHILADELPHIA ACADEMY OF SURGERY THE SAMUEL D. GROSS PRIZE—FIFTEEN HUNDRED DOLLARS

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1935.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M. D.,

EDWARD B. HODGE, M. D.,

JOHN H. GIBBON, M. D.

Trustees.

Philadelphia, April 15, 1934.

## SERUM AND WHOLE BLOOD IN THE PREVENTION AND CONTROL OF MEASLES

An epidemic of measles appears to be under way not only in Illinois but throughout the United States. In view of these facts the Illinois Department of Public Health wishes to bring to the attention of the physicians of this state the values of convalescent serum and whole blood in the prevention and control of this disease.

The most successful method known at present for preventing measles is to inject intramuscularly from 5 to 10 c.c. of serum from a person who is convalescing from measles into the exposed person. If this is done soon after exposure, almost complete protection against infection is conferred. If convalescent serum is not available, blood of recently convalescent persons or of normal adults may be used. The latter procedures are especially useful in private practice where prepared convalescent serum is not always available.

More recently it has been found that if serum or

blood is not injected immediately after exposure but a few days later the attack may be modified. By this technique the effect of vaccination against measles is obtained namely, a lasting immunity.

Zingher worked out the following table of dosages for serum; twice the amounts of whole blood should be used:

### DAYS AFTER EXPOSURE

For complete protection:

	1-4	5-6	*7-8
Convalescent serum .....	2.5-3 cc	5 cc	7.5 cc
Recently recovered serum.....	5-6	7.5	10
Immune adult's serum.....	10	15	20
For modified attacks:	1-5		5-10
Convalescent serum .....	1.5 cc		2.5 cc
Recently recovered serum.....	2.5		5
Immune adult's serum.....	5		10

\*Later experience indicates that complete protection is difficult to obtain beyond the sixth day after exposure.

The Samuel Deutsch Convalescent Serum Center of the Michael Reese Hospital has a limited supply of measles convalescent serum on hand for use in preventing measles in very young children or in older children who are in poor health. This will be sent to any physician in the Chicago area at the cost of preparation.

This organization is putting up convalescent serum in 5 c.c. doses for children under three years of age and in 7.5 c.c. doses for those over three. It is recommended that these amounts be injected between the fifth and seventh days after exposure in order to develop modified measles. Very early administration is suggested only for very debilitated or very young children.

## EARLY DIAGNOSIS AND TREATMENT OF CONGENITAL DISLOCATION OF THE HIP

Joseph A. Freiberg, Cincinnati (*Journal A. M. A.*, Jan. 13, 1934), states that the diagnosis of congenital dislocation of the hip may be made during infancy, before the age of 6 months, by simple methods of observation and examination. Up to the age of 6 months, reduction of congenital dislocation of the hip may be accomplished by gradual abduction of the legs by one of several methods. The original manipulative reduction of Paci is still the most satisfactory method in infants more than 6 months of age. Soiling of the postoperative cast may be prevented, thereby eliminating the principal reason that has been brought forward for deferring reduction until the child is 2 years of age. In infancy, reduction of congenital dislocation of the hip is easily accomplished by closed or manipulative methods. Open reduction is indicated in a very small percentage of cases when closed reduction is unsuccessful.

## RELIEF OF PROSTATIC OBSTRUCTION

Clyde W. Collings, New York (*Journal A. M. A.*, Jan. 13, 1934), emphasizes the facts that prostatic obstruction is relieved through the cysto-urethroscope or through a suprapubic or perineal incision and that it is of vital importance to the patient that the obstruction of the neck of the bladder removed—if not, the resultant renal insufficiency will probably cause

death. It is his present belief that a patient suffering from benign enlargement will be better off with a prostatectomy than with transurethral surgery, in the hands of many urologic surgeons (especially those who perform only the odd transurethral operation). Prostatic bars, obstructing prostatic carcinoma and scars, slight and moderate intra-urethral lateral and median lobes are ideally suited for urethroscopic excision by the trained transurethral surgeon. The markedly enlarged prostate, bulging into the rectum and urethra, had best be removed by prostatectomy. The author reports his observations during the past ten years in relieving ward and private patients of obstructions of the neck of the bladder.

#### ROENTGEN EVIDENCE OF HEALING IN DUODENAL ULCER

Daniel M. Clark and Milton J. Geyman, Santa Barbara, Calif. (*Journal A. M. A.*, Jan. 13, 1934), discuss the compression technic, the significance of niche disappearance, the time of the disappearance of the niche, the relation of the niche to the contour of the deformity and the efficiency of various forms of treatment as they pertain to the evidence of healing in duodenal ulcer presented by the roentgenogram. From this study the authors conclude that in more than half of all cases of duodenal ulcer the roentgen ray has a definite value in determining the response of the lesion to treatment. Roentgen disappearance of a duodenal ulcer niche following treatment indicates a favorable initial response but does not mean that the ulcer is completely healed. There is a wide variation in the amount of time required for disappearance of the niche. As a general rule, duodenal ulcers heal more slowly than gastric ulcers. Contour deformities of the barium-filled bulb are not entirely dependable in the diagnosis of duodenal ulcer, and they are of little or no value in determining the response of a lesion to treatment.

#### CHRONIC RECURRENT DISLOCATION OF THE PATELLA

Wallace H. Cole and George A. Williamson, St. Paul (*Journal A. M. A.*, Feb. 3, 1934), believe that in the chronic recurrent type of dislocation of the patella, a combination of operations may be necessary. The best method in their hands for reinforcing or tightening the relaxed structures on the medial side of the knee is a fascial transplanation. Straightening the line of pull of the extensor mechanism is best accomplished by the procedure described by Goldthwait or by one of its modifications. Raising the anterior surface of the lateral condyle of the femur is the best method for increasing the bony barrier against lateral displacement of the patella. The uses for this type of operation alone are more limited, but good results are obtained in properly selected cases.

A dear old lady had attended a health lecture, and stayed behind to ask the lecturer a question.

"Did I understand you to say," she asked, "that deep breathing kills microbes?"

"I certainly did say that many microbes are killed by deep breathing," replied the lecturer.

"Then can you tell me, please," she asked, "how one can teach microbes to breathe deeply?"

#### OUTBREAK OF AMEBIASIS IN CHICAGO DURING 1933: SEQUENCE OF EVENTS

Because of the many conflicting statements regarding the recent outbreak of amebiasis in Chicago, Herman N. Bundesen, Fred O. Tonney and I. D. Rawlings, Chicago (*Journal A. M. A.*, Feb. 3, 1934), take this occasion to cite briefly the sequence of events as they occurred, beginning with the report to the board of health on August 16 of two cases of amebic dysentery that were observed in two different hospitals of the city and ending with the investigation of the physical plant of one of the hotels on January 3, at which time the chief engineer of the hotel revealed that on July 2 two sewer pipes had broken under the ice storage room, permitting sewage to flood areas where food and ice were stored, prepared and handled, and also where 345 food handlers worked, many of whom ate their meals in the basement in the quarters which were flooded. Realizing the peculiar circumstances concerned in this outbreak and the widespread interest of public health officers, the board of health is endeavoring to prepare a complete and detailed report of all phases of the epidemic which will, when ready, be made generally available.

#### IMPORTANCE OF THE SIZE OF STOMACH AND STOMA IN GASTRO-ENTEROSTOMIES

While Edward L. Jenkinson, Chicago (*Journal A. M. A.*, Feb. 3, 1934), feels that the stoma should be large enough in every case to insure proper drainage, he believes that there is a limit to the size of the opening. No doubt radiologists have seen openings that have proved to be too large. In this type of case the food passes through into the small intestine too rapidly, and diarrhea and abdominal distress follow. Another condition that is occasionally seen if the pylorus is open and the stoma is too large is the vicious circle that develops: the food passes through the pylorus and again into the stomach through the stoma.

#### POSTURE OF THE CARDIOPATH DURING PREGNANCY AND LABOR

During labor, the cardiopathic patient should be kept in a sitting posture. The delivery should be accomplished in the same posture, and prophylactic forceps done in the second stage of labor in all cardiopaths.

Immediately after the delivery of the child, sandbags should be applied to the abdomen, to prevent splanchnic engorgement. Pituitrin is given as necessary, as well as ergot. The patient should be kept in a sitting posture for at least three days, and gradually brought back to a recumbent position while noting the effect on the cardiorespiratory system.

Vital capacity should be ascertained as a routine in the prenatal examination, as an early gauge of myocardial insufficiency.—Dr. Louis Rudolph, Chicago, in *A. J. Obst. and Gyn.*, Apr., 1932.



## Original Articles

### THE AMERICAN MEDICAL ASSOCIATION'S SERVICE TO MEDICINE

CHARLES B. REED, M. D.

CHICAGO

The American Medical Association should be and probably aspires to be the strong central power which represents to the people and the government the ambitions and ideals of the whole medical profession.

Since the association was reorganized in 1891 the current of its activities has broadened and deepened in every direction, and its strength and influence are continually growing. The body is not always as sympathetic and responsive to local conditions as these seem to demand, but this attitude may be due to a larger view point rather than to indifference. At all events the local societies grow definitely stronger by solving their own problems, however unpleasant the business may be. Unhappily we look in vain for aid from the National Association, some times when it would be extremely welcome.

The Journal of course is the great distributing medium of the A. M. A., and probably the most efficient and widely distributed medical publication in the world, although not so close to the heart of the medical man as our state Journal. The columns of the National organ contain original articles, abstracts of the world's literature, notes on medical progress, reviews of new books, clinical information, analyses and comments on recent ideas in medicine and surgery, personal notices and reports of the proceedings in the various committees and societies from America, Europe, and Asia. It becomes, therefore, a wonderful factor in humanizing and unifying medical thought and medical procedure. In furtherance of the educational idea a library was naturally a prime necessity. The library of the Association now contains several thousand volumes and is so managed that it not only contributes the silent companionship of books but becomes a great boon to students and investigators. Collected writings on any subject, in one or more packages are sent broadcast at very small expense so that an inquirer can discover without

delay what others have thought or done in any department of research or experimentation.

To strengthen this purpose still more, the Index Medicus was taken over when the project became too expensive and too complex for the Surgeon General's office at Washington. This publication is a complete register of current literature in all languages carefully tabulated by subjects, authors and titles, the scientific gleanings from fourteen hundred periodicals regularly subscribed for. The value of this enterprise to scientific medicine is incalculable and should be maintained at any cost.

Another outgrowth of the business is the Medical Directory which gives the names and all available information concerning 156,000 doctors in the U. S., as well as the names of hospitals, their size, location, and management, the Medical Societies and various other items which at times are highly necessary.

The economic question has of late forged into great prominence and this department of the Association is kept up by nation-wide contacts with everything of medical interest in this field. Studies on the advantages and disadvantages of group practice, the income of the doctor, the Shepard-Towner law, State Medicine here and abroad, the panel system, corporate practice of medicine and all the phases of general medicine have been taken up and the findings exhaustively analyzed by experts.

While it is true that business methods and economic principles are essential to the practice of a profession, still these principles must serve, rather than dominate the medical man if he is to maintain his professional status. To depart from the standards is charlatanry. Individualism must and shall be preserved and the fine relation which has ever existed between the doctor and his patient should be fostered and strengthened. The rumor is interesting, and I hope true, that Johnson's purpose to socialize Medicine was thwarted through an appeal by the A. M. A. to a sympathetic president.

It is the duty and privilege of the medical profession to disseminate as much of our knowledge as the people can absorb, and the health and education of the multitude is no important part of the wealth of nations. Of course, with untrained minds the intake cannot always be satisfactory, and moreover the threads of in-

formation are often twisted either through ignorance or malice.

In the control of charlatanism we must remember that people differ in their receptivity to ideas as materials differ in liquid absorption. The most vital point is the power of discrimination. This faculty is not the product of education entirely but arises most often from an inherited or acquired ability to differentiate between the true and the false—between reasoned knowledge and sophistry. Every one has his blind spot. In some it takes the form of ingenuous trust in charlatanry, or at least a hostility to science from which the highly educated are not always exempt. Humanity is strangely susceptible to prejudice and suspicion as well as to 'isms, 'ologies and 'pathies.

The education of the public is an important part of the control of quackery and local, state and national forces are combining to bring a knowledge to the people which will circumvent the Pharisees, the Philistines and smooth tongued cultists who prey upon the ignorant and wilfully perverse.

In the Department of Legal Medicine the decisions regarding the compensation acts, damage suits, malpractice suits, malingering and similar conflicts which concern the doctor are carefully collected and summarized for brief consideration.

This Bureau is peculiarly important at the present time when every man out of a job hopes to practice medicine by exploiting the doctor, or by using him as a tool in blackmailing reliable manufacturing plants with personal injury suits.

The legislative functions of this Bureau were initiated in 1930 and developed rapidly. It secures a magnificent and effective group impact through close relations with the medico-legal committees of the states and has intimate co-operation with the American Legion and the American Hospital Association, whereby progressive ideas and guides to legislation can be exchanged.

Another important function is performed by the Council of Pharmacy and Chemistry.

The development of so-called ethical preparations of drugs began in 1875 and grew to serious proportions when the century turned. The profession had no means of determining what drugs were entitled to confidence while the claims for

all of them were preposterous and often without any foundation. Organized Medicine, *Collier's Weekly*, Harvey Wiley and many lay organizations demanded protection against impure foods as well as misbranded and useless drugs.

The Medical profession and the legislatures cooperated in the passage of the "Food and drugs act" in 1906 and out of 72 preparations advertised in the A. M. A. Journal only 12½% were later admitted to new and non-official remedies and of these nine, not one is now recognized. This result is due to the labors of the Council on Pharmacy and Chemistry which in 27 years has devised the set of rules which now guides and governs the actions of the Council. Not only has the medical man become critically minded regarding drugs but the people at large are much more skeptical and resistant to patent medicine advertising and high power salesmanship.

Drug manufacturers have themselves been benefited and pharmaceutical houses frankly recognize the importance of reputation and standardization. Scientific research staffs have been employed quite generally and they are adding their valuable contributions to the widely expanding pharmacopeia. The altruism of this Council has aroused the entire profession against the unscrupulous manufacture and distribution of proprietary preparations and patent nostrums.

The work of the Council on Medical Education and Hospitals is probably more peculiarly devoted to the developmental interests of the profession than some of the others and thereby through the betterment of medical standards acts as a wiser guardian of the public. By study, inspection and suggestion this body has secured a strong group of well established and efficiently conducted medical schools. Medical practice acts have been established or improved in various states. The Council has classified hospitals for interns and contributed definitely to the national revision of public and private institutions on a higher level. Clinical standards in x-ray and other laboratories have been coordinated and stepped up. Conferences have been held with the Association of American Colleges, the National Federation of State Licensing Boards, the American Hospital Association and similar organizations, and as a result of these surveys regulations for



universal elevation of all the subsidiary bodies are developing.

At present a study of Mental Hospitals is under way with considerable hope of alterations in the management of the insane. The leadership of this committee in clearing a long neglected field has been of world wide interest, and the value of its harvest grows with the years. These few examples of work which most of you are familiar with show the various lines along which the association is acting. All of them lead toward better medicine, better schools and better doctors.

The work therefore of the Association is, as it should be, of benefit to the whole profession which in turn conveys the service to the public from whom it reacts again to the doctor.

Possibly in this, and other papers, too much stress is laid upon what the several societies have done, or may be doing for individual practitioners. This is an important and never to be forgotten thought but would it not be appropriate to inquire what the doctor does for his society either local, state, or national. In each of these bodies a small group of devoted souls are carrying on, through personal doubt, financial difficulty and secret, or open criticism. Yet if the work is to continue, somebody must assume the burden. The maintenance of our organizations takes time, energy and consecration of purpose, or else they would fail and the whole medical group would be destroyed as an honorable scientific body. In place of a splendidly functioning machine, a mass of confused debris would encumber the earth without hope or possibility of a vital resurrection.

Physicians as a rule have less appreciation of the value of organization than the members of other professions. In large cities there is a tendency to break up into cliques and coteries which permit narrow interests to take precedence over others of wider and more public character. Jealousies and misunderstandings follow and a feeling of panic springs up, a feeling of every man for himself, against which the power and influence of our medical organizations are the only enduring protest.

The alert and conscientious physician develops mentally through self analysis, or honest extraneous criticism. Medical organizations develop in the same way and every attack properly

received stimulates thought and promotes the growth of the individual, or association. Medicine needs its devotees from the lowest to the highest. We speak of benefits. The benefits of organized medicine depend upon ourselves. No business thrives where the operators continually withdraw capital, or profit and never deposit. We must all contribute. A man should be able to take out something from the creative effort which he imposes. If, however, he expects to thrive on the capital others have put in, he is not playing the game fairly. He not only loses both interest and capital but, alas, his very soul is placed in pawn. Our profession is infused with a lofty humanitarianism which we must applaud and endorse. For centuries medical knowledge has burned with a variable intensity, but of late the zeal of its acolytes has fanned the flame to a gem like intensity. It is our duty to supply the fuel—the blood that nourishes and the spirit which drives. Let us therefore turn to and unite—not alone with our local body—but with local, state, and national organizations, and devote our powers to the promotion of the profession and the glory of that science to which we have consecrated our lives, our fortunes and our sacred honor.

30 N. Michigan Ave.

---

#### THE ILLINOIS STATE MEDICAL SOCIETY SERVICE TO MEDICINE\*

PHILIP H. KREUSCHER, M. D.

President Illinois State Medical Society,

CHICAGO

One cold winter morning eighty-three years ago twelve doctors from various parts of the State of Illinois journeyed to the City of Springfield for the purpose of organizing the Illinois State Medical Society. We are told that the trip to this organization meeting for some of the men meant an absence from their work for a period of five to seven days. Some of them walked, some came on horseback, and others drove their horses over almost impassable roads. These men had but one object in view and that was the organization of a society which would make them better doctors and afford them the benefits which are derived from organized medicine.

---

\*Read before North Shore Branch Chicago Medical Society April 3, 1934.

A study of the preamble of the constitution written for this occasion indicates six distinct purposes. "1. to supply more efficient means than have been heretofore available to cultivate and advance medical knowledge, 2. to elevate the standard of medical education, 3. to promote the usefulness, honor and integrity of the medical profession, 4. to enlighten and direct public opinion in regard to the duties, responsibilities and requirements of medical men, 5. to excite and encourage emulation and concerted action in the profession, and 6. to facilitate and foster friendly intercourse between those engaged in the medical profession."

These sturdy pioneers made history in Illinois. These men had convictions and had reached conclusions which were so well expressed by Osler in later years; namely, "Physicians who do not use books and journals, who do not need a library (and he might well have added who do not belong to recognized medical organizations) soon sink to the level of the cross-roads prescribed not alone in practice but in those mercenary feelings and habits which characterize a trade."

For a time there were many stormy battles and much had to be done to convince other physicians that the time was ripe for the organization of the Illinois State Medical Society. In due time, however, the organization grew and prospered until now we have in the bounds of this state the largest local medical society in the world, the Chicago Medical Society. The number of members in the state outside of Chicago practically equals the number in this city.

Why have so many men found it necessary to become members of organized medicine? The answer is an easy one. They have realized that strength lies in organization, although sometimes we forget to recount the benefits which we derive from our medical society. Membership in the county society ordinarily makes one eligible for the state organization, the national organization and fellowship in the national organization. Membership in organized medicine furthermore makes one eligible for membership in special societies and groups for special studies, makes it possible for one to become a member of a hospital group, a university group and to hold office in official county and state societies.

Membership in any organization presupposes the ordinary privileges and benefits derived from

all meetings, deliberations and discussions of such an organization. Every one expects to be supplied with a high-class scientific journal. Our state journal, which we believe is the best state medical society journal in existence, should be read by every member. The editorial pages alone of the last three years are worth more than the price of the entire journal.

Membership in your state organization gives you even more tangible benefits. It gives you medical protection against malpractice suits. This protection is offered by the state society not to make us careless in our practice but for protection against unscrupulous individuals who are constantly at the heels of the medical man. Have you ever been sued for malpractice? Have you ever felt that consoling moral support of 8,000 fellows in your state? This protection alone is worth many times more than the price paid annually for the membership.

The state organization maintains a Legislative Committee which, through its bulletins, keeps you conversant with all such legislation as has a bearing on medical practice. It gives you an opportunity to oppose adverse medical legislation. We are told that approximately 10% of all bills introduced into the legislature have a bearing on medical practice. The state society which maintains such a legislative "watch dog" has in years rendered a service the value of which cannot be estimated in dollars and cents.

Organized medicine in the State of Illinois renders also an Educational and Scientific Service, furnishing information to the members of the organization and spreading the gospel of preventive medicine through the press and through the air. Through it is maintained:

1. Speaker's Bureau. Hundreds of talks are given throughout the state, most of them on request. Health talks have become popular in every community. The public has become health-minded, and this Speaker's Bureau has been able to supply the needs of the times.

2. Newspaper Service. Hundreds of newspapers all over the state are receiving material for publication. These health talks are carefully censored and contain such information as is of definite value to the reader.

3. During the last year more than 550 radio or health talks were sponsored by this committee of the state society.



4. Definite cooperation by the Educational and Scientific Service Committee is established with lay and other professional organizations. Cooperation from these many groups is constantly increasing. Many economic problems have been brought up for frank discussion, and we feel that in many instances and in many localities there has been a better understanding between the medical profession and the lay organizations.

5. The Scientific Service Committee assists in arranging programs for the county societies. Several hundred excellent speakers are listed who will go into the various counties and speak upon their various specialties.

The benefit derived from the state society is in direct ratio to the number of units of energy the members of the component societies put into action. If the county societies succeed the state society is sure to live. The state society is dependent upon the county activities and upon assistance from the county organizations, but in turn gives to the county organizations every possible cooperation.

Some years ago the editor of the ILLINOIS MEDICAL JOURNAL, in discussing progress in medical societies and especially in the component unit, the county society, gave a number of formulae as to how to actually get something out of a society or to kill it. He said that a good way to kill a medical society was:

"1. Do not come to the meetings. If you do come, come late.

"2. If the weather doesn't suit you, don't think of coming.

"3. If you do attend a meeting, find fault with the work of the officers and other members.

"4. Never accept office as it is easier to criticize than to do things. Nevertheless, get sore if you aren't appointed to a committee, but if you are, do not attend the committee meetings.

"5. If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say.

"6. After the meeting tell every one how things ought to be done.

"7. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly and successfully use ability to help matters along, howl that the organization is being run by a clique.

"8. Hold back your dues as long as possible or do not pay at all.

"9. Don't bother about getting new members. Let George do it."

The state society serves another great function which I believe is not sufficiently emphasized. That function is the annual meeting of all the members. We often forget that this is the members' own meeting and should be attended in large numbers. The officers of the state society have in years gone by worked days and weeks in the preparation of a program for the benefit of all of those who attend. This year has been no exception. Not only have all the sectional officers put forth great effort, but it is a fact that some of these programs have been completely filled months ago. The quality of the papers to be given is improving each year. The demonstrations are taking on a more scientific aspect. Subjects are discussed which are interesting not only to the general practitioner but to the man who is doing a combination of general practice and surgery or general practice and a specialty. The Illinois State Society has added to its other exhibits space for a Scientific Exhibit where the latest scientific developments in all fields pertaining to medicine and surgery can be seen and studied. This year the state society is adding another new feature; namely, fracture demonstrations. It is the aim of the society to make the state meeting so important, to make the program so inviting and to give so much of all that is new and instructive, that I do not see how any one can afford to miss this annual gathering.

It is difficult for me to conceive how any sincere physician can live outside of the medical society. What would happen if our county and state societies should suddenly become disorganized? I admit that it is not always easy to give up time and energy to promote the welfare of an organization for the common good of all. You, the members, and we the temporary officers of the state society all have our duties to perform, and I repeat a statement I made a minute ago that the society is able to give to its members in a direct ratio to the efforts put forth by the individual members and the component societies.

Gentlemen, organized medicine is not a union, it is not a medical trust; it is an organization with a very definite purpose. If we are to be of

benefit to each other then let us put our shoulders to the wheel and do all in our power to promote the science and art of medicine, to raise the standard of medical education, to organize a medical profession and safeguard its interests, to bring about the enactment of uniform legislation for public welfare and to protect public health and crystallize public opinion in regard to the problems before us. For the benefit of mankind let us carry on.

### THE CHICAGO MEDICAL SOCIETY'S SERVICE TO MEDICINE\*

THOMAS P. FOLEY, M. D.

Secretary of the Chicago Medical Society.

#### CHICAGO

I think it would have been better to start the program with the Chicago Medical Society because if you are not a member of the Chicago Medical Society you cannot belong to the Illinois State Medical Society or the American Medical Association. You cannot receive any of the benefits Dr. Reed and Dr. Kreuscher told about. Naturally we feel the Chicago Medical Society is the best county organization not only in the state but in the whole American Medical Association. There is no question about it if you consider scientific programs. Men who have come here such as Frank Lahey of Boston and Chevalier Jackson of Philadelphia, are surprised to hear that we hold a minimum of twenty scientific meetings a year in the central society. They tell us their societies do well if they have eight. When we tell them our fifteen branch societies and nineteen special societies each hold a meeting a month, they are further surprised and cannot understand how physicians in Chicago have time to practice medicine and attend even part of these meetings.

If there is anything the Chicago Medical Society fails to do it is to tell the members of the Society what it is doing. There are numerous committee meetings. There are monthly Council meetings. We depend on councilors to carry back to the branches reports of what is being done. This is the twelfth branch meeting I have attended this year. At some of the Branches, after a Council meeting crammed with action and lasting until midnight, I have heard a Coun-

cilor report to his branch that there was not much doing at the last meeting of the Council. Still we have a meeting that lasted from seven o'clock to twelve with reports of marked interest.

The Chicago Medical Society is a contributing member of the Better Business Bureau. The reason for going into this was to give the Chicago Medical Society the opportunity to investigate many things that come up for consideration in the central office. The bulletin of the Better Business Bureau is sent to the president and secretary of each branch with the hope that these officers will give the branch members the benefit of the items of interest to physicians. Among the schemes investigated by the Better Business Bureau are the various means of getting money out of doctors. No matter what you write in the Bulletin, almost every day complaints come in relating to collection agencies. This week a letter came stating a member had given accounts to a collection agency. After some time they wrote him that they had collected \$78.00, but after they figured out the cost of collection and their commission he owed them \$9.50. No matter how often you tell them never to sign a contract without studying it, doctors will sign. These people operate within the law. The member tells them that their man said, "if we do not collect any money you do not have to pay." They reply that they are not responsible for anything except what is written in the contract. We publish in the Bulletin time after time a warning not to sign any contract without reading it carefully.

These are some of the things that happen that you know very little about. An effort will be made to establish what may be called a Reference Bureau. By this is meant a place where people applying for assistance in selecting a doctor may be helped. People call the Chicago Medical Society and ask for the name of a general practitioner or a specialist in the various lines of medicine. The answer customarily has been, "we have 3,500 members and we cannot give any names." I think this is a mistake. The other day a man called up and said, "I want to get some advice. I went to an advertising institution and when they got through with the examination they said I needed to see an orthopedic surgeon. They gave me the names of four." "I went to one of their offices and when the nurse

\*Address before North Shore Branch of The Chicago Medical Society, April 3, 1934.



started to take my history she asked who referred me. When I told her, she refused to continue taking the history. She said they did not accept patients from this institution and suggested that I call up the Chicago Medical Society. I want to know if that was an ethical thing to do. I had been to my own physician who has treated me but has never referred me to anyone else." We should have a place where people can get such information. I think when anyone calls the Chicago Medical Society and asks for information, and at least ten people do every day, we should give them the names of the president and secretary of the Branch in the district in which they live, telling them either one will refer him to a doctor, a member of the Society. One of the reasons why this year we gave a certificate of membership was so people would realize that there is a Chicago Medical Society and that its members are qualified to serve them.

It is as Dr. Reed and Dr. Kreuscher said, you have to take an interest in the work of the Chicago Medical Society to know its many benefits.

Some of the things we are asked to do are impossible. This is an incorporated organization and we have to work within reasonable limits. I think for the ten dollars everyone is paying in 1934, they are receiving \$1,000.00 worth of service. Some do not think so. When you look back at the session of the legislature two years ago and remember the successful termination of the session as it related to medical legislation, you will realize the efficient service of your State Legislative Committee. The Illinois State Medical Society spent at the last session \$6,000, which is not very much when you consider the number of members.

#### AN ANATOMIC-PATHOLOGIC CLASSIFICATION OF PULMONARY TUBERCULOSIS BASED ON THE EXTENSION OF THE PROCESSES

JOHN RITTER, M. D.

Assistant Professor Emeritus of Medicine, Rush Medical College, the University of Chicago

MIAMI, FLORIDA

#### CLASSIFICATION OF DISEASES

Diseases usually are classified according to their onset. If a disease comes on suddenly, as we so frequently see in measles or in scarlet fever, when from the first intimation of any

disturbance until the fully developed manifestation of disease, a few hours or perhaps a day or so may elapse, we refer to this as an acute disease. Many diseases, like measles, scarlet fever and smallpox, pneumonia, influenza, diphtheria, etc., are also designated as acute infectious diseases. Now, if a body disturbance is more protracted, is longer drawn out; that is, if from the onset of the disturbance until it is a fully developed disorder, many days or perhaps many weeks may intervene, is not acutely developed but more slowly, we say that it is a sub-acute affair. This we see so frequently, very clearly, in idiopathic pleurisy. Again if from the beginning of any body disturbance until a definitely developed body disorder is evident, taking, perhaps, many months, it is usually designated as a chronic disease. Here we often find that the process is long drawn out, perhaps over weeks or months and sometimes even years. Leprosy, syphilis and tuberculosis belong to this latter classification and the most protracted and the most long drawn out, by far, is tuberculosis. From the first onset or beginning of this chronic disease, tuberculosis, and up to the final termination decades may elapse. Recorded cases are mentioned where from the initial disturbance until the close of the scene more than thirty years have passed, and from my personal observation, I can attest that in a young person the disease had lasted for more than thirteen years. It is true that this disease also occasionally assumes a more acute form and that from the onset of the disturbance until death may be an interval of perhaps a few months. Here the disease runs a very malignant course; however, we do say that the average duration of tuberculous disease is about two years; that is, from the first symptom of any disturbance till the close of the scene.

#### CLASSIFICATION OF PULMONARY TUBERCULOUS DISEASE

*Clinical Tuberculosis.* After the tubercle bacilli are introduced or have become implanted into the human body and body changes have been brought about by the resistance of the body cells against the invading bacteria, a condition now manifests itself in the body which we designate by the term being infected. Infection is the first evidence of resistance of the body cells against the invading bacteria and now being antagonistic it simply becomes a question of mastery of the

situation. Usually, after the bacilli have found a nidus, a resting place, somewhere in the human body they may remain quiet for a longer or shorter period and the human body as far as we are able to judge, is not cognizant of their presence. However, sooner or later these bacteria so deposited begin to multiply, to increase in number, draw their sustenance from the body fluids, and in this process of metabolism give off certain substances in accordance with the laws of existence. It is the presence of these substances and the bacteria as foreign bodies which now cause the body disturbance observed as symptoms of the disease of infection chiefly as symptoms of intoxication. It should be noted here that the implantation of the bacteria into the human body does not constitute infection, that in many instances after implantation weeks and months may pass before we can say that a person has become infected; hence, it is only with resistance to the bacteria, to the invaders, manifested by body changes, that we can say that a certain individual is tuberculously infected. As a general rule a tuberculous infection is not immediately followed by tuberculous disease, but usually, after a period of quiescence, in many instances, years elapse between the primary infection and the primary disease, when body symptoms begin to manifest themselves, which now points to the fact that the body is no longer infected but is now tuberculously diseased as well.

*The anatomical unit, the primary lobule of the lung.* An anatomical unit of the lung, according to the observations and teachings of Prof. W. Snow Miller, Madison, 1916, the University of Wisconsin, is the anatomical structure of the lung from the end of the bronchioles to its minutest ramifications of the pulmonary tissue, in the pulmonary parenchyma. It is all that portion of the lung structure which embraces that division of the respiratory bronchus, the bronchiolus respiratorius, the alveolar ducts, the atria, the pulmonary alveoli and the air sacs and extending upwards and outwards towards the pleura, the last division of the pulmonary parenchyma. It is all that area in which the interchange of the oxygen from the respired air and the carbon dioxide takes place. This is now designated as the primary lobule; in European literature it is alluded to as the primary acinus. Prof. Miller has conclusively demonstrated that the continuation of the bronchioles is not

abruptly into the alveoli and the air sacs but that their terminals are most complex bodies, usually dividing into many compartments break-



Fig. 1. An anatomical unit, an acinus, a primary lobule, schematically represented by a primary lobule of the lung after Prof. W. Snow Miller, Madison, the University of Wisconsin, 1916.

#### EXPLANATORY NOTE

- b.r. A bronchiole. (bronchiolus respiratorius).
- d.al. An alveolar duct. (ductulus alveolaris).
- a. An atrium. (vestibulum).
- a.p. An alveolus. (alveolus pulmonis).
- s.al. An air sac. (sacculus alveolaris).
- p. The pleura. The lobule is represented as being situated immediately under the pleura.
- x. Ring of muscle fibres. End of all muscle tissue, lymph vessels and nucleated epithelial cells. (See: Alfred Stengel, Nothnagel's Practice.)
- y. Represents the beginning of a second primary lobule which, however, is not carried out in detail.

ing up and terminating in the pulmonary parenchyma and that between the air sacs and the respiratory bronchi are the vestibuli or atria; these in turn open into the minute ducts, the ductuli-alveolaris—the continuation of the bronchioles.

All that tissue up and beyond the alveolar ducts up in the extreme parts of the lung structure is covered by an epithelium devoid of nuclear elements, non-nucleated cells—this tissue is easily destroyed by any foreign substance and tubercle bacilli act simply as foreign bodies. It is here in this tissue that the pulmonary tuberculous process usually has its beginning.

*The anatomy of pulmonary tuberculosis. The*



*pulmonary acinus*. According to H. Beitzke, 1917, the existence and classification of pulmonary tuberculosis, after Nicol, is anatomically dependent upon the acini in the lung structure. An acinus is the totality of the alveolar processes extending from the respiratory bronchi upwards, usually two or three in number. Anatomically speaking, an acinus represents the primary lobule of Miller, the anatomical unit of the lung, all that part of the pulmonary parenchyma extending upwards from the respiratory bronchus into and including the air vesicles; this includes from the bronchus respiratorius, the ductuli respiratori, atria or vestibuli, the sacculi alveolaris and alveoli pulmonum, the latter the last division within the pulmonary parenchyma. In the majority of instances, the tuberculous process usually begins at the junction of the respiratory bronchus and the alveolar ducts with the vestibuli or atria and extends peripherally more or less rapidly invading the whole acinus. The tuberculous colonies in the acini distinctly control many forms of pulmonary disease. These foci in the acini may be in dense groups or remain more or less in isolated colonies and in many instances both the exudative and proliferative processes may run parallel; however, usually the lumen of the alveolar processes is filled with a caseous exudate, surrounded by a fine layer of granulation tissue and the more chronic, the more favorable this process, the greater is the amount of this granulation tissue and now this tissue rapidly favors the destruction of the elastic alveolar walls and the elastic elements are now found in the inflammatory exudate mentioned. This granulation tissue may now undergo changes from within; caseation may take place or the formation of scar tissue envelop or encapsulate this inflammatory caseous exudative substance. This latter is usually the result in the chronic form of apex tuberculosis, whereas the rapidly progressive cases very seldom show any evidence of a granulating covering surrounding the caseous exudative mass. In the tuberculous foci with an advance or with very little granulation tissue formation, the inflammatory process extends rapidly toward the center of the lung developing a caseating bronchitis or bronchiolitis and from these prolific granulation processes in the acini frequently strands of sub-miliary tubercle are traceable extending toward the hilum and caseous material may break into

the smaller bronchiols thereby extending the tuberculous process.

*Schematic classification of pulmonary phthisis.* Various attempts at classification of patients on examination have from time to time been made, so as to recognize from the amount of lung involvement present, to which class or group a certain individual belongs. Such an attempt at classification we already find in the pulmonary histories of the ancients where mention is made of "Phthisis Incipiens," or beginning tuberculosis, "Phthisis Confirmata," or established phthisis, conforming to our so much used term, moderately advanced tuberculosis, and "Phthisis Desperata," or grave phthisis corresponding to our far advanced type. In our country we have formulated a classification based on what is now known as the Turban-Gerhardt scale. This grouping of all the types of tuberculosis according to this schema is now in general use and although for orientation it was found quite efficient it is lacking much that could be construed as scientific truth. For instance, the term incipient tuberculosis, which means to describe beginning tuberculosis, is misleading, is open to much criticism. Is it not evident that after scanning this classification that the so-called incipient pulmonary tuberculosis is no longer a beginning disease, that the stage of incipency has long since passed and is now a fully established disorder? The word "incipient" denotes the beginning of something and a condition of incipency which has existed for months, perhaps for years, can surely not be termed beginning.<sup>1</sup> A later classification, dropping the word incipient and substituting for it the word "minimal" is no improvement; if anything, it places the pulmonary condition in a still greater plight. Incipency, at least, means activity, that something is going on, but minimal denotes a stationary condition, something that is quieted down, the least quantity, and this is not to be understood by the meaning of beginning phthisis. The word "minimal" to be used in place of the word "incipient" was suggested by the board of the National Sanatorium Association a few years ago, was adopted and after all does it not seem strange now that even the members of the Association in describing beginning phthisis very infrequently use the word "minimal."

Our classification into minimal, moderately advanced and far advanced, with an attempt to

correlate the lesions and symptoms, does not give us a clear conception of what is going on in the chest cavity and so within the last two decades attempts at a classification which would satisfy all contentions, a schema that can be acceptable to the clinician, the internist, the pathologist and the roentgenologist, is the desideratum, this, however, is somewhat difficult of accomplishment.

Is it possible to arrive at a practical, useful, generally acceptable and a satisfactory classification of the pulmonary tuberculous processes, that will be agreeable to both the internist, the pathologist and to the roentgenologist as well?

All attempts at, and suggestions for a logical classification of pulmonary tuberculosis into definite groups and forms, so far, have failed. The word "stages" is not well chosen because the disease has not always, or only infrequently, definite stages; hence, this does not state which is meant. An ideal classification has thus far not been devised because our aim has been to answer all requirements of the clinicians, the roentgenologist and the pathologist at the same time; this perhaps may be impossible.

The classification now generally in use in our country is known as the Turban-Gerhardt. This, in general, is not satisfactory and it usually fails when it concerns the prognostic consideration of the tuberculous patient. Even with additions for statistical purposes, it is still not suitable.

*Schematic classification by leading European authors.* In the last two decades the leading, the greatest minds in Europe, especially in Germany, and who are deeply interested in this perplexing tuberculosis problem, have endeavored to formulate a definite and acceptable classification; however, so far this has not been accomplished. Let us follow a little in detail some of this very interesting work as outlined by some of the most capable Geni. We will here enumerate this work in the order of its greatest importance.

1. Aschoff, L. 1922. *The nomenclature in phthisis*. He is opposed to Marchand's attempt at unifying the different histologic tuberculous process under the name of tuberculosis, and upholds the use of phthisis for all such diseased processes. To the main form of productive phthisis he gives the newly coined name, acinus—nodular phthisis and for the chief form of

exudative phthisis, the lobular-caseating phthisis, a broncho-pneumonic, a pneumonic form.

The present nomenclature of pulmonary tuberculosis, according to Aschoff, from an anatomical viewpoint, is an incorrect interpretation. The original name was phthisis—meaning disappearance of tissue, conforming to our word of consumption, but since the last 50 years the name tuberculosis has displaced the name phthisis; however, the correct word remains phthisis.

He further states that pulmonary tuberculosis is a pathologic—anatomical and an immune—biological problem.

2. Nicol: *The value of an anatomic-pathologic basis for a clinical nomenclature and classification of pulmonary tuberculosis*. Pathological changes brought about by the tubercle bacillus in the lung tissue are observed in two forms: a *productive* or proliferative and an *exudative*. (A) the productive foci in the acini, the pulmonary tissue at the terminal bronchioles, composed of specific granulation tissue is the basis of the productive, and the cirrhotic-acinus form. (B) the formation of an exudate, the exudative foci, form the basis for the exudative type of pulmonary tuberculosis. This is usually accompanied by caseation and cavity formation. The caseating broncho-pneumonic, lobular and the caseating pneumonic, lobar form result from this, the exudative type. The disease spreads from above down without being confined to the pulmonary lobes.

The classification of the various forms of pulmonary tuberculosis so masterfully depicted by Nicol can also be demonstrated clinically as well as roentgenologically, into the small nodular, the disseminated, the large nodular, the hemogenically infiltrative, these extending from the hilum, the cirrhotic, the atypically diabetic and the typhobacillous or miliary. 1917.

3. Ernest Romberg, Munich, Germany: A. Exudative tuberculosis (a) broncho-pneumonic, and (b) pneumonic form.

B. Proliferative or productive (a) a pure proliferative tuberculosis, (b) a proliferative-cirrhotic form.

C. Cirrhotic pulmonary tuberculosis, (a) chronic, fibrous, indurative, phthisis.

4. A. Fraenkel, S. Graff and Albrecht: A schema for a prognostic classification of bronchogenic pulmonary tuberculosis, based on pathologic and anatomic findings, upon the following



facts: Is the case an open or a closed one? If fever or if no fever? 1. Quantitatively, location of the process (a) if unilateral or bilateral, and (b) if apices, upper lobe, middle or lower lobe, 2. qualitatively the various forms of anatomical variation (a) cirrhotic, cirrhotic-nodular or nodular-cirrhotic (b) acinus, nodular, and (c) lobulare (lobular) exudative and lobulare caseating (broncho-pneumonic, lobar caseating (pneumonic) (d) with or without cavities. (1922). An advance is found in the principle of classification as first suggested by Fraenkel, and later by Albrecht. This really takes into consideration the anatomical aspect of the case. In the clinical application of this method, as well as the schema advanced by Nicol, many difficulties may be encountered. It remains a mooted question if for a clinical classification of all the various processes of pulmonary tuberculosis, the anatomical findings will present a suitable division.

The picture of chronic pulmonary tuberculosis, according to the classification of Fraenkel and Albrecht into an exudative, proliferative and cirrhotic, can also be demonstrated roentgenologically as follows:

A. Exudative, pneumonic areas of large and extensive shadows without any evidence of contraction.

B. Proliferative type: Nodular, small, contracted, spotted, soft, continuous shadows in part confluent.

C. Cirrhotic form: Retractions of the involved areas, narrow, intercostal spaces, dropping of the ribs or retraction of the soft parts towards the diseased field, vicarious emphysema of the still normal portion of the lung and linear lung markings, extending from the hilum towards the involved apex.

5. Bacmeister, Adolph. Sanatorium St. Blasien, 1922. To the question of a nomenclature and classification of pulmonary tuberculosis, the following schema is advanced:

A. (a) progressive, (b) stationary, (c) a tendency to latency, (d) or latent.

B. The disease, (a) cirrhotic, (b) nodular, acinus, pneumonic - productive, lobar - broncho-pneumonic.

C. Tuberculosis with (a) open, and (b) closed. conditions.

Da. The right apex (with cavitation), hilum, upper lobe, middle lobe and lower lobe.

Db. The left apex (with cavitation) hilum, upper lobe, lower lobe. This classification presents a picture concerning the clinical course, the anatomical basis, extension of the process, the prognostic possibilities, the therapeutic measures for statistical purposes, for a re-examination and critical judgment of the treatment, and from the anatomical relationship, the general practitioner, if practical, can make an anatomical diagnosis.

6. Harms: Tuberculosis division into (1st) the clinical division of the tertiary form of pulmonary tuberculosis, according to the anatomic-pathologic viewpoint when compared with the Turban-Gerhardt classification is a pronounced step in advance. While observing the diseased condition, the general reactions, it clears the indications for the various methods of treatment. The present state of the diagnosis and the prognosis are most valuable. A comparative statistic for therapeutic results is, without the stating of the anatomic-pathologic character of the pulmonary findings, of no value, (2nd) the different stages of pulmonary disease, according to Ranke, opens the clinical research of our knowledge of immunity along entirely new lines. With roentgenological interpretations it is possible to outline the various stages of pulmonary development most accurately. The healing of the primary focus, as a rule, no exception is made in infant life. In the stage of secondary tuberculosis the lungs are more frequently affected than is usually assumed. The endogenous reinfection of the lungs in this, the secondary period, can be shown roentgenologically to produce various forms.

7. Ulrici: A clinical diagnosis and classification of pulmonary tuberculosis based on anatomical findings:

A comparative study of physical, roentgenological and anatomical findings in the pulmonary tuberculous individual make it possible for the clinicians to recognize these various changes, if productive or exudative, and this leads, naturally, to a classification based on anatomic-pathologic conditions. In both, the productive and the exudative form of the disease, the following clinical signs are present, and should be carefully noted: Course of the tuberculous process, general appearance of the individual, signs of retraction, or lack of motion, physical findings, temperature curve, pulse frequency, sputum findings, secondary changes about the heart, the abdominal and

laryngeal changes, etc. The characteristic of the heart of the tuberculous is its smallness, atrophy, a microcardia, particularly in the first and second stages of the disease, and more so in the rapidly progressive cases, when it usually is constant, whereas, in the slowly advanced cases an hypertrophy of the heart may frequently be observed. A clinical division of pulmonary tuberculosis on an anatomical basis. Group 1. The productive form (a) the true chronic circrhotic phthisis, (b) the chronic nodular form (with or without cavitation), Group 2, the exudative, phthisis, (a) the subchronic, the acute lobular caseating pneumonic, and (b) the acute, lobar caseating pneumonic.

8. Hamburger. 1920. Classification of pulmonary tuberculosis into 1. closed and open cases, 2. infective and non-infective, 3. active and non-active cases, 4. sputum without bacilli, closed and sputum with bacilli, open. Here, there is no uniformity as to classification.

9. R. C. Wingfield<sup>2</sup> suggests a new classification of pulmonary tuberculosis, based upon special consideration of the constitutional disturbances, this solely upon the clinical symptoms, according to the teachings of Inman; in addition, the classification is also based on the working and non-working capacity of the tuberculous individual.

Inman places all forms of pulmonary tuberculosis into three groups. Group 1. All patients who show a temperature or fever while at rest. Group 2. Patients who are without fever while at rest, but show a temperature following exercise, and Group 3. To this group belong all who are always fever free—this with or without exercise. According to this classification the temperature record is the only reliable guide. Those belonging to group 1 are always feverish, never free from fever. Those in Group 2 may or may not have fever, while those belonging to Group 3 are always free from fever—never have fever. What constitutes a feverish condition? A temperature of 99 F. is considered the dividing line between febrile and afebrile cases, and this measurement, while at rest, at least 45 minutes after bodily exercise.

Into this third group many different forms of pulmonary tuberculosis may be assembled. The essayist seeks to supplement this by the addition of a classification according to the ability of the tuberculous person to work, and to work-

ing or non-working capacity of the tuberculous, he suggests the following classification (a) indicates patients who are able to work and who remain idle, (b) indicates patients who are unable to work but under proper care and treatment become able, (c) indicates patients who are able to work but who, in spite of all, gradually become unable, and (d) indicates patients who are unable to work and who under all care and treatment always remain unable.

#### CONCLUSIONS

1. The picture of exudative phthisis is anatomically always that of the pneumonic state. The roentgen picture of the exudative type shows definite, soft, round, not sharply defined shadows which run into one another, and the roentgen pictures of the proliferative form of tuberculosis is also quite characteristic. Here, the foci are sharply defined—giving often, a clear, leaf-like outline composed of many rounded shadows; whereas, in the exudative form the bronchopneumonic foci, the shadows are softer, outline irregular, rounded—not sharply defined.

2. The more actively an organ functions the less frequently does it become tuberculously diseased. See the thyroid, the muscles, etc.

3. The anatomical forms of pulmonary tuberculosis classified according to the morphological appearance and extension of the process into (a) miliary, (b) nodular, and (c) confluent these according to localization, pathogenesis, and histology separated into individual groups.

4. A model classification must satisfy the following conditions (a) it must be brief and based on accurate clinical factors (b) these factors must be easily acquired, and (c) this classification, owing to personal judgment or preconceived views, must be free from all changes.

5. Although much has been said, much has been written during the last two decades about the grouping and classification of tuberculous disease into definite and acceptable stages and a uniform nomenclature, it still remains up to the present time an unsatisfactory manner to place this complicated problem.

6. Incidentally, I may remark here, that in my Text-Book, a "Handbook of Tuberculosis" from the press in 1923, after explaining the Turban-Gerhardt clasification in detail I placed much dependence on a nomenclature of tuberculosis into (a) the exudative, (b) the proliferative,



and (c) the cirrhotic type of the disease, gleaned from the descriptive text of Ernest Romberg. This classification, since, I have always followed in both my study and in my teachings. A classification recently voiced in a medical journal by Dr. G. G. Ornstein, of New York, places the classification into four groups: 1. the exudative, 2. the chronic pneumonic, 3. the exudative proliferative and 4. the chronic proliferative form. This, however, seems to complicate matters somewhat, is not easily acquired; it also appears to duplicate the picture. Make the classification, the nomenclature, as simple and as briefly as possible.

7. May I humbly be permitted to suggest that the National Sanatorium Association formulate an acceptable plan for tuberculosis teaching based on the clinical, pathological and the roentgenological findings, such a schema then to be adopted by the National Tuberculosis Association and the medical profession of our country in general. At the present time, while attending chest clinics in various sections of our country, the interpretation by the various clinicians differ so much, that they can not be understood by every one present. A better orientation of all these varying factors, a simpler and better understanding is most desirable. Hence the query: With our present day knowledge concerning the various diseases, can we formulate a true nomenclature or an appropriate classification of the various tuberculous processes of the lungs which would fully answer or satisfy all the requirements of the clinician, the pathologist and the roentgenologist?

1. Ritter, John: So-called incipient tuberculosis, J. A. M. A., 66: 592, 1916.

2. Wingfield, R. C.: Lancet, 190: 1057-1058, 1916; Brit. J. of Tuberculosis, 10: 187-189, 1916.

2370 S. W. 23rd Terrace.

## SENILE CATARACT THE PRESENT STATUS OF INTRA- CAPSULAR OPERATION

W. A. FISHER, M. D., F. A. C. S.

CHICAGO

In January, 1934, Dr. O'Connor of San Francisco, read a paper before the Chicago Ophthalmological Society describing his capsulotomy method of cataract operation, in which he recommended preliminary iridectomy, conjunctival bridge, capsulotomy and removal of the cataract

with the aid of the Fisher needle. He reported satisfactory visual results, and no noteworthy complications in fifty-five cases.

In February, 1934, Professor Elschmig of Prag, before the same society, described his method of operation. He uses the intracapsular technic with blunt forceps, and reports satisfactory results in thousands of patients upon whom he has operated over a period of more than twenty years.

An article by Prof. de Grosz of Budapest appeared in the January, 1934, number of *Archives of Ophthalmology*, in which he reports results which are satisfactory to him after prolonged use of the intracapsular method.

To one who has watched these three surgeons work, it is apparent that, with their surgical skill, satisfactory results may be obtained regardless of method. Such is not the case with the average ophthalmic surgeon, however, and hearing and reading these reports has prompted the writing of this paper dealing with the present status of the intracapsular method for the removal of senile cataract; also to emphasize a method of acquiring operative technical skill without subjecting the patient to complications which may follow any method of obtaining experience by operating on human eyes.

*Representative Users of Both Methods.* It might be of interest to inquire about the Continental clinics and to ascertain the preferences of outstanding ophthalmologists as to the types of operation used for the removal of senile cataracts.

Professor Baer of the University Clinic, Hamburg, will declare himself in favor of capsulotomy, while Dr. Van Lint of Brussels will favor the intracapsular technic, with his own modification of the Barraquer, suction method. Professor Kaufman of the University clinic, Berlin, Professor Hertel of Leipzig, and Professor Kadlicky at the Czecho-Slovakia University clinic, Prag, prefer capsulotomy, while Professor Elschmig and Dr. Kubie at the German University clinic, Prag, where the intracapsular method with blunt forceps has been in vogue for more than twenty years, affirm this procedure as their method of choice.

Professor de Grosz of Budapest will assert himself as favorable to the intracapsular method. Professor Mueller, in charge of the famous Fuchs clinic, Vienna, still utilizes the capsulotomy

operation as performed by the late Professor E. Fuchs, even to the detail of the lids held by the fingers of the assistant, but he will also state that others in Vienna, (in particular his assistant, Dr. Safar) are doing the intracapsular operation and are enthusiastically inclined.

In Munich, Professor Wesseley does the capsulotomy operation, while Professor Barraquer and Dr. Vila Cora, working in separate clinics in Barcelona, employ the intracapsular operation. The chief of the University Clinic, Madrid, prefers capsulotomy, while Dr. Poyales of the Red Cross Hospital, Madrid, is enthusiastic about the intracapsular operation. In Paris, some ophthalmic surgeons employ the intracapsular method, others prefer capsulotomy, and some the conjunctival bridge.

If one were to make a tour of these clinics, he would return with a very favorable impression of results obtained by the capsulotomy operation. But it must be remembered that the surgeons in these clinics are above average and results obtained are much more satisfactory than can be secured by the average good ophthalmic operator. One would also be impressed by the extraordinary results following the use of the intracapsular method, and would be very apt to decide that if one could attain the skill of Van Lint, Elschmig, Barraquer, Kubie, de Grosz, Vila Cora, or Poyales, the intracapsular method would undoubtedly be the operation of choice. This decision would follow the observation of fewer postoperative complications, absence of secondary or needling operations, and better visual results.

*Intracapsular Operators in India.* In India, Dr. Holland performs about 600 cataract operations per year at his home town of Quetta, and about 1400 more per year at his clinic in Shikarpur. Dr. Mathra Das, a native Indian operator in Moga, states that he has removed more than 100,000 cataracts. Both Holland and Mathra Das do the intracapsular operation using the Smith technic. Col. Cruickshank of Rawlpinda, India, who has been associated with Holland in his Shikarpur clinic for a number of years, employs the Barraquer intracapsular method. Nugent, of Chicago, after two trips to India and Europe and after performing more than 1,000 cataract operations in Holland's clinic at Shikarpur is an ardent advocate of the Barraquer method. He has made some constructive sug-

gestions, in regard to the method of applying the suction, which simplify the operation. His results have been so good and postoperative complications so rare, that he has practically abandoned the capsulotomy operation.

Dr. Leo F. McAndrews, in *Archives of Ophthalmology*, January, 1931, gives a very complete review of the literature regarding intracapsular and capsulotomy operations. He quotes 69 papers, the authors of 48 of them favoring the intracapsular method.

The author of one of the papers in Dr. McAndrew's review condemns the intracapsular method after doing five operations; another severely condemns the intracapsular operation after doing only one operation. When asked how much experience he had had, he replied, "More than forty years with capsulotomy and one intracapsular operation, which was enough." Then he rushed into print to warn others.

These two operators were sincere and many others who condemn the intracapsular operations do so because they have not tried to master the technic before operating on human eyes. It is certainly unfair as well as illogical to condemn a method because one is not skilled to obtain good results. McAndrew's review gives two to one favoring the intracapsular. In the United States, the intracapsular operation is becoming more popular, especially among operators who operate frequently.

Of the European operators quoted in this paper, seven favor the intracapsular and seven the capsulotomy operation. In India, where cataracts are done in a wholesale manner, the Smith intracapsular operation is the rule.

To emphasize the Smith method, let us say that the Knapp method in the United States has the most followers. Knapp states that he finishes his operation by the Smith method as a tumbler. Knapp should have many followers because he is a finished operator, his technic is good, and, naturally, his results are satisfactory to him. Millette, of Dayton, states in a private communication that he has operated on more than 2,000 cataracts by the Smith method and that his results are so satisfactory that he would not think of making a change.

Other operators prefer suction for grasping the lens instead of capsule forceps or pressure as in the capsulotomy or in the Smith method



because they believe fewer capsules will be ruptured by the suction method.

Personally, after having done the capsulotomy operation for twenty years, then taking four trips to India, performing more than 2,000 cataract operations upon Indian patients, and twenty years experience with the intracapsular, I prefer the suction method and seldom do a capsulotomy.

*The Intracapsular Operation.* Almost any surgeon who operates frequently will operate well, and naturally, obtain good results. If the visual results following capsulotomy appear satisfactory to the ophthalmic surgeon, he may be loath to change from his tried method to another. But the advantages of the intracapsular operation are such that it cannot be overlooked.

With one exception, the technic of the two operations is quite similar. The preparation of the patient, before and at the time of operation, and during the healing process is the same. The essential difference in the operations is the removal of the cataract after the incision has been made.

If the operation is performed without complication, if no complications occur during the healing process, if there are no opacities in the cornea, if there is no lesion in the fundus, and if no needling is necessary to make an opening into the capsule, good vision will ensue as a natural sequence of events.

In evaluating the results of the operation in such clinics as those at Shikarpur or Moga, India, visual results cannot be considered, because most of the patients travel long distances and the uncomplicated cases rarely remain under the care of the surgeon for more than ten days. They are instructed to purchase glasses in their home town a month after the operation. After a cataract operation, I always refer the patient back to the physician from whom he was sent, with instructions to prescribe glasses one month after the operation to fit the individual case. If the operator demands his return for this service and the distance is great, he may be asking the impossible, and the net result will be unsatisfactory.

*To Learn the Technic.* The mastery of any type of cataract operation is not easily attained. However, one can readily become proficient in the performance of the intracapsular operation

or the capsulotomy method, provided it is approached in the proper manner. Many kittens must be sacrificed and enough freshly-killed chickens' lenses used for practice.

Professor Elschnig and others state that no operator is justified in attempting the extraction of a lens within its capsule until he has mastered the usual extraction with capsulotomy. If this statement be true—and it is—how can one master the usual operation, or capsulotomy. He cannot do it by watching others operate and the toll of destroyed eyes, following experiment and trial, would be too great to obtain experience by such methods except in large clinics under the guidance of an expert.

Much can be learned from the experience of others. Therein lies the value of books. In his book, entitled "Senile Cataract," Professor Elschnig<sup>1</sup> described fully his technic for intracapsular operation. In the book of the author, "Senile Cataract"<sup>2</sup> the technic for capsulotomy and intracapsular is fully described in detail. After a conscientious study of the methods put forth in these books, together with practice on kittens' eyes and lenses of freshly-killed chickens, the experienced surgeon should be able to operate successfully on senile cataract by any method and the beginner will acquire the fundamentals which, backed by experience will make him a safe operator.

#### CONCLUSION

When an uncomplicated intracapsular operation for the removal of senile cataract has been performed, a secondary or needling operation is not required. Should an occasional ruptured capsule make needling necessary, this secondary procedure can be carried out with as few complications as when capsulotomy has been done. The intracapsular operation, therefore, should be the operation of choice.

When the intracapsular technic has been mastered, using kittens' eyes and freshly-killed chickens' lenses, the operation can be carried out with very few complications during the operation, postoperative inflammation is lessened, needling becomes unnecessary unless an occasional capsule is ruptured, and hospital convalescence is shortened.

The intracapsular operation can be performed when cataracts interfere with the vision to such

an extent as to interfere with reading and the carrying on of ordinary duties.

#### BIBLIOGRAPHY

1. Elschmig, A.: *Senile Cataract*, Leipsiz, Engleman, 1932 (German, \$2.75).
2. Fisher, W. A.: *Senile Cataract*, Ed. 2, Chicago Eye, Ear, Nose and Throat College, 1933, (267 pages, 183 illustrations of which 122 are colored, \$1.00).

231 W. Washington Street.

### THE RELATION OF URETHRAL AND BLADDER NECK LESIONS TO DIS- TURBANCE OF URINATION IN WOMEN

EARL E. EWERT, M. D., AND RUSSELL D.  
HERROLD, M. D.

CHICAGO

We do not present this paper with the idea that the subject is new to members of this society, but we believe that many of the profession other than urologists do not appreciate that disturbances of urination in women may be relieved by careful study with appropriate treatment to lesions of the urethra and adjacent bladder neck. Many internists as well as gynecologists consider too lightly the discomforting symptoms of disturbance of urination.

Randall<sup>1</sup> states that in a long series of post-mortem examinations of the bladders of women, it is the exception to find a normal looking vesical orifice. Stevens remarks that almost every woman suffers from bladder disturbance at some period of life. In our series it has been unusual to find a completely normal bladder in multipara.

As far back as 1917 Bugbee,<sup>2</sup> Hunner<sup>3</sup> and others emphasized the importance of greater attention to urethral pathology in women, particularly strictures. Stevens,<sup>4</sup> and Mathe<sup>5</sup> in 1923 mentioned the occurrence of polypi on the bladder neck. Since that time there has been comparatively little stress in regard to these polypoid masses until the articles by Folsom<sup>6</sup> after 1931, and his excellent exhibit at the recent meeting in June which was seen by most of you.

During the last two years we have selected from our clinic a rather large group of women whose chief complaint was disturbance of urination. This series of patients was made use of in order to test the comparative value of the more

commonly used urinary antiseptics with suitable control by routine cultures. About six months ago we decided to make a routine urethrosopic examination of fifty of this group which naturally represented those most resistant to urinary antiseptics, and in whom such treatment had given either no relief, or but a temporary improvement. We believed that such study would give a rather reliable index of the frequency of pathologic conditions of the urethra and bladder neck, and the relative incidence of the various types of lesions.

It was found that thirty-six out of fifty patients had some type of urethrovesical pathology. In some instances two or more conditions existed in the same patient. The incidence of the various lesions were as follows:

Polypoid excrescences or masses.....	19
Granular urethritis .....	12
Cysts .....	6
Stricture .....	4
Median bar .....	2
Urethrocele .....	2
Caruncle .....	2
Papilloma .....	1
Diverticulum .....	1

It was not unusual to see enlarged orifices of urethral ducts in the posterior half of the urethra, but the exact incidence was not noted. These examinations were made through a number twenty-four panendoscope which we believe is better suited for the examination of the urethra and bladder neck than is the cystourethroscope. In a few instances a comparative examination was made with the two instruments. Only one small caliber stricture was noted while the other three listed required dilatation before the twenty-four instrument could be inserted comfortably. Several other urethras, however, gripped the twenty-four instrument firmly, and were subsequently dilated to thirty or higher since size thirty is generally considered to be the average size of the normal urethra in women.

These polypoid masses are apparently the result of chronic infection and inflammation together with a submucous infiltration of the urethra, and are frequently associated with some contraction of the lumen. In the pre-polypoid stage an endoscopic examination reveals granular urethritis and trigonitis. Braasch and Hurley<sup>7</sup> classify these lesions as granulomas, and describe them as localized areas of hyperplasia of the mucosa and submucosa apparently result-

From the Department of Urology, College of Medicine, University of Illinois.

Read before North Central Branch.



ing from inflammation, and state that they vary from minute patches to papillomatous proliferations. They mention their occurrence in any part of the urinary tract, but stress their most frequent location in the bladder and urethra. Folsom reports that polypoid growths have many rudimentary gland-like structures, and suggests that the masses themselves are adenomatous papillary structures, and not simply fibrous polyps. These polypoid masses occur most frequently in the posterior half of the urethra, and particularly at the junction of the urethra and bladder neck where their outline is clearly visible with the instrument in the urethra so that the maximum field of vision is centered on the bladder neck. This view often gives the margin of the sphincter a corrugated appearance. These masses are more usually sessile, but in some instances pedunculated, and are multiple more often than single. In one patient a single pedunculated polypus was located on the floor of the urethra with its edge about one-half centimeter from the bladder neck, and the patient stated that frequently there was sudden stoppage of the flow of urine during micturition. In another patient a papilloma was located halfway between the bladder neck and the meatus, and would likely have been missed without the use of the panendoscope.

The most common group of symptoms in this series of patients was frequency of urination with intermittent attacks of burning, sometimes associated with localized pain between voidings. Not uncommonly, pain was referred to the groin, lower end of the ureter, or to the back, and thus sometimes required a differential diagnosis from pelvic conditions outside the urinary tract as well as of the kidneys and ureters. All of this series of patients had a complete bladder and upper urinary tract examination. Those patients in whom an endoscopic examination revealed a normal urethra and bladder were referred to the gynecology department for pelvic examinations. Some have been reported to have had genital conditions that were suggestive of causative factors of the bladder disturbance, thus corroborating what has been emphasized by others, that closer cooperation between the urologist and gynecologist is advisable.

In the management of these conditions we have found that the polypoid masses, papillomas, cysts, and caruncles should be treated, first, by

electro-coagulation, and afterwards followed by dilatation and silver nitrate instillation as needed. Granular urethritis and strictures responded to dilatation as a rule. Urethrocele and diverticulum should be corrected by surgical measures, although in our case of the diverticulum there was increased drainage and clinical improvement after electro-therapeutic measures. One of the median bars was incised with a Colling's urethrotome, and followed by dilatation with good results. Anything more than a grade one cystocele was not included in this series.

It is too soon to evaluate the results of corrective measures of the lesions described above as regards their influence on the resistance of actual infection such as colon bacilluria. Approximately half of the patients who were found to have polypoid growths also had an associated colon bacilluria. However, the group as a whole presented urines that were crystal clear with comparatively few pus cells in the urinary sediment, but stained smears and cultures yielded bacteria. Those patients with urine sediment smears containing the coccus group seemed less likely to obtain any relief from the administration of urinary antiseptics. It is evident, therefore, that the examinations of such crystal clear urines by the average hospital laboratory would generally be reported as negative. Folsom believes that these localized lesions are a direct etiologic factor in the persistence of upper urinary tract infections by constant reinoculation through the ascending route. We have records of the cultural results before treatment in this series of patients, and we hope by later cultures to determine more definitely the exact relationship of such lesions to chronicity of infection both of the lower and upper urinary tract.

The average age in this series of patients was about forty years, which perhaps accounted for the low incidence of caruncles, as we had very few patients in this series over fifty years of age. No attempt was made to determine the influence, if any, of previous gonorrheal infection, but it is probable that in some instances gonorrhea was an important primary etiologic factor as it is well known that strictures and polypi are found in the male in the post-gonorrheal stage of the disease. Following gonorrhea urethral examination and calibration should be made.

In a few instances patients with urethral

lesions and infection had coexisting arthritis. This suggests the possibility of a focus here like chronic infection of the prostate in the male, and further study is needed to determine the exact significance. It was not unusual to find some degree of residual urine in women with stricture of the urethra or with the other lesions above described.

#### SUMMARY

Panendoscopic examination revealed a high incidence of granular urethritis and polypoid excrescences in a series of patients in whom the bladder and upper urinary tract was normal, but who retained as a predominant symptom persistent disturbance of urination.

Polypoid lesions and cysts were first treated by electro-coagulation, and then followed by dilatation and local medication where indicated. In selected instances urinary antiseptics or other suitable measures were continued as an aid in the elimination of the remaining infection. We have obtained encouraging results by this management.

It would seem advisable to make a panendoscopic examination in all instances of persistent symptoms where previous study has indicated a normal upper urinary tract. Also, when upper urinary tract pathology has been corrected or removed without relief of urinary symptoms, attention should be directed to the urethra.

The persistence of symptoms associated with a negative urinary tract is an indication for a complete gynecological study to determine the relation of possible lesions outside the urinary tract to disturbance of urination. The above rules for routine examinations would probably decrease the number of patients whose condition could be classified as a neurogenetic dysfunction.

#### BIBLIOGRAPHY

1. Randall, A.: Discussion—Caulk, J. R.: Contracture of the Vesicle Neck in the Female. *J. Urol.*, 6: 341-343, 1921.
2. Bugbee, H. G.: Frequency of Urination in Women. *J. A. M. A.*, 68: 693-699, 1917.
3. Hunner, G. L.: Intractable Bladder Symptoms Due to Urethritis. *J. Urol.*, 4: 503, 1920.
4. Stevens, W. E.: Urology in Women. *J. A. M. A.*, 81: 1917-1924, 1923.
5. Mathe, C. P.: Ibid. Discussion.
6. Folsom, A. I.: The Female Urethra. *J. A. M. A.*, 97: 1345-1351, 1931.
7. Braasch, W. F. and Hurley, M. V.: Granulomas of the Urinary Tract. *J. Urol.*, 18: 595-605, 1927.

## SOME OF THE ADVANCEMENTS IN THE TECHNIQUE OF EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

D. O. N. LINDBERG, M.D., F.A.C.P.

Medical Director and Superintendent  
Macon County Tuberculosis Sanatorium

DECATUR, ILL.

It is interesting to recount instances of advancements in the fields of diagnosis brought about as the result of serial pathological studies revealing lesion processes in their earlier stages.

In the days of Auenbrugger and Laennec the chest physical signs, together with symptoms, provided a diagnosis of a pulmonary lesion, which, if tuberculous, was only too often recognized in the advanced stages when the prognosis was not favorable for complete recovery. It was not until much later, in 1882, with the discovery of the tubercle bacillus by Koch, that differentiation with any degree of accuracy could be made between tuberculosis and other conditions finding more or less prevalence within the chest walls, such as pneumoconiosis, abscess of the lung, mycotic lung disease, pulmonary syphilis, chronic bronchitis, bronchiectasis, broncho-pneumonia, dry pleurisy, Hodgkin's disease, aortic aneurysm, and bronchogenic carcinoma.<sup>1</sup>

It has for many years been recognized that physical signs could be absent in the presence of central lung pathology and when the lesion did not find location within a few centimeters of the peripheral pulmonary parenchyma. Then, too, we have all repeatedly observed that inasmuch as caseation with softening and rupture into a bronchus does not usually take place during the earlier manifestations of tuberculous processes in the lung, tubercle bacilli in the sputum is a finding that may be sparse, intermittent or absent.<sup>2</sup> It is obvious, therefore, that a number of non-tuberculous individuals have of necessity been diagnosed and treated as being tuberculous whereas other patients who were symptom-free, without physical signs, and tubercle bacilli undiscovered in the sputum were considered to be negative from the standpoint of having tuberculosis and only re-examination, the result of important increase of symptoms, revealed the presence of râles, or tubercle bacilli in the sputum, or both, and the diagnosis definitely made.

Read before Twenty-fourth Annual Meeting, Illinois Tuberculosis Association, September 18, 1933, Kewanee, Illinois.



Every phthisiologist, today, having added radiography to his diagnostic armamentarium has encountered innumerable cases in which important upper lobe infiltration was present without the elicitation of râles at any time during their treatment episodes or perhaps had noted



Fig. 1. Illustrating a right upper lobe infiltration.

their development for the first time concomitantly with the complete disappearance of the lesion, roentgenographically. Similarly, instances of the intermittency or completely negative reports with respect to the finding of tubercle bacilli in the sputum, over long periods of time, have been not less frequently observed. Lawrason Brown,<sup>3</sup> in 1931, reporting upon a study of 503 cases of pulmonary tuberculosis with indefinite or no usual abnormal physical signs, made the accurate observation that "a new era in the diagnosis of pulmonary tuberculosis is upon us, and whether the value of the roentgen examination is accepted now or postponed for a decade or longer the diagnostician or roentgenographer will eventually have to modify their practice and technique to conform with it." Cummings<sup>4</sup> considers that the great strides made in the field of chest radiology constitute an amplification in diagnostic power by no means sufficiently appreciated by the profession in general. Ellman<sup>5</sup> comments as follows: "There was a period when foolish controversy raged on the relative importance of stethoscope and x-ray," and feels that with respect to the early detection of pulmonary diseases in general and tuberculosis in particular the value of physical

signs have been much over estimated, and that such undue belief in the importance of their presence has been responsible for delay in diagnosis.

Recent *Early Diagnosis Campaign* literature of the N. T. A. portrays the physician seated before a radiograph and in connection with slogans such as "Early Discovery—Early Recovery." One cannot, I think, fully subscribe to the occasionally expressed opinion that it requires at least a generation before any new medical discovery finds universal acceptance by the general practitioner.<sup>2</sup> For certainly it must be there are few, if any, physicians in our country today who, in the presence of suggestive symptoms or even for the purpose of ruling out tuberculosis in the symptomless case, dismiss their patient with a negative diagnosis when uncorroborated by radiograms of the chest. Hollman,<sup>6</sup> Berlin, has recently discussed his conclusions based upon a study of 2,637 patients who were diagnosed by general practitioners as having tuberculosis or other pathologic lung states and who were re-examined with particular emphasis upon radiographic studies. Of 1,053 diagnosed as tuberculosis only 35 per cent. were confirmed. An interesting finding was that in but 63 per

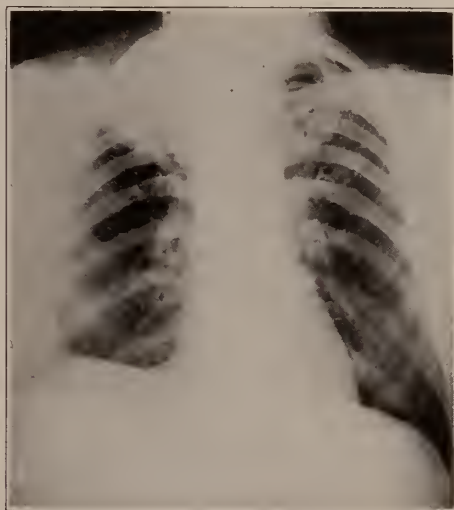


Fig. 2. A dense pleural cap encapsulates a bronchopneumonic lesion of the right upper lobe.

cent. of thirty-five patients with hemoptysis was tuberculosis the responsible factor. His review data furnish additional emphasis of the necessity for roentgenological study in all pulmonary cases. There are still occasional references in

medical literature to the potential usefulness of "D'Espines Sign,"<sup>7</sup> or elicitation of interscapular dullness, while at the same time utilizing stereograms as "controls" in the arrival of the diagnosis. Since the purposes are not altogether clear such collaboration of findings might well be simple evidence that they "are not allowing radiology to in any way interfere with the arts of Laennec—."<sup>4</sup> In the light of our advanced, modern diagnostic technique, with reference to

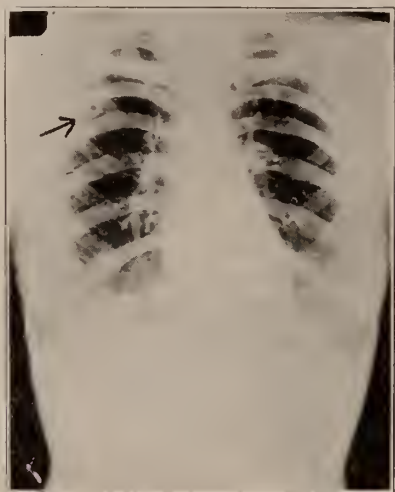


Fig. 3. A typical Assman Focus.

Râles could not be elicited in any of these cases.

the early case of pulmonary tuberculosis, it does appear rather useless to attempt to preserve such signs, for example, as palpation technique for the elicitation of underlying cavities or even taking seriously such newer physical signs as that of D'Andrea who, upon flexion of the head on the thorax finds a cord-like structure palpable between the occiput and the lower cervical vertebrae in active pulmonary tuberculosis of the upper lobes.

Of 206 consecutive cases of active pulmonary tuberculosis admitted to the Macon County Tuberculosis Sanatorium, Decatur, Illinois, with diagnosis based upon the standards of the National Tuberculosis Association, including serial stereo-roentgenography, no râles were noted after expiratory cough in 66.7 per cent. with minimal lesions; 31 per cent. among the moderately advanced; and 21.2 per cent. of the far advanced group. In this series, approximately 12 per cent. in each of the three stage-groups developed râles for the first time during their sanatorium treatment episode, while 11 per cent. in each of the

two less-advanced groups showed a disappearance of these physical signs. Another important observation dealt with the fact that in the group, without râles on admission, who reached the state of definite arrest of their lesion, 10.4 per cent. developed râles only when they had become roentgenologically and clinically inactive. Brown and Heise,<sup>2</sup> in an important study of 1,478 consecutive cases admitted to Trudeau Sanatorium, found râles to be absent in 31.5 per cent. Their figures are somewhat comparable to our own average of 39.6 per cent. including all stages of the disease. In our own study no attempt was made, of course, to determine or record any changes in the "numbers" of râles over given areas. It is felt that such procedures provide only gross estimates such as cannot be recorded in manner so as to furnish useful comparability with the findings of similar examinations accomplished at a later time.

Our statistics upon the incidence of physical signs among radioscopically controlled cases of pulmonary tuberculosis are presented solely for

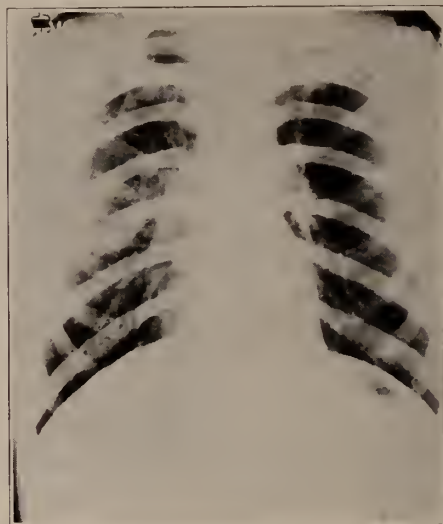


Fig. 4. A mid-lung cavity of moderate size found to be entirely "silent."

the purpose of emphasizing that similar data form routine observations in most well conducted tuberculosis sanatoria, and adding further proof of the unreliability of physical signs in the diagnosis of early pulmonary tuberculosis. The facts with reference to the development or persistence of râles during the stage of "arrest" have been recorded as further suggesting the accuracy of the more recent interpretation of the mechanism



of the production of râles, as understood by Bruns and emphasized in recent literature by Fales.<sup>9</sup>

Sanatoria records abound with the controlled data that patients treated upon the basis of lacillary findings in the sputum alone will have poor therapeutic and economic end-results; also, that elevations of temperature form uncertain criteria for the estimation of the progressive behavior of tuberculous lesions.<sup>10</sup> Unsurprising are the reports of Brown and Heise<sup>2</sup> who, along with a host of others, have found that considerable extensions could occur without significant reflection in temperature or physical signs. Figures 1 to 3 inclusive illustrate definite roentgenological lesions of manifest clinical tubercu-

important bronchopneumonic extension in the face of a continuing normal temperature curve.

While fluoroscopy<sup>11</sup> and the single film, either celluloid or paper,<sup>12</sup> have their own definite fields of usefulness in connection with chest studies,



Fig. 5. An extensive bronchopneumonic spread without elevation of temperature.

losis in which râles were not heard after most careful study, whereas in the case of Fig. 4 the cavity was definitely "silent." The case of Fig. 3 was that of a young woman of 18 years whose examination was made solely as part of the "contact" examination plan of combating tuberculosis, from the public health standpoint, who denied all symptoms and whose carefully worked out observation study proved negative from the standpoint of both physical signs and the finding of tubercle bacilli. The radiograph shows a soft ring-like shadow (Assman Focus) in the right second anterior interspace which on serial study increased in size, the soft halo disappearing spontaneously following a brief therapeutic program of rest. Fig. 5 furnishes an example of



Fig. 6. "Rales" elicited over the lesion area failed to disappear upon the clearing of the lesion roentgenographically as noted in Fig. 7.

stereograms<sup>13</sup> are quite definitely the last court of decision with respect to the diagnosis of early pulmonary tuberculosis. Though, as Sargent so aptly expresses it,<sup>4</sup> "A radiological examination



Fig. 7. (See legend 6)

is an autopsy of the living," nevertheless we must realize that a poor radiogram is worse than useless and especially is this true as applied to chest radiograms. A definite advance in the

diagnosis of pulmonary tuberculosis was therefore made when, in 1928,<sup>14</sup> a committee on standardization of x-ray apparatus and technique was formed by the American Sanatorium Association "when it was apparent that increased speed of exposure was necessary to correct misconceptions that arose from the blurring of hilum and trunk shadows due to cardio-vascular movement." This committee, reporting recently,<sup>15</sup> suggests that the most useful diagnostic information is forthcoming from the chest radiogram only when there is satisfactory delineation of all broncho-vascular trunks in a film with clear lateral lung borders, of satisfactory density and contrast so as to reveal an abundance of detail. Untold advantage would most assuredly result from the adoption of such standards as would provide films more comparable both as regards the individual patient and others. Newer apparatus<sup>16</sup> now being developed as a direct result of the obvious need for greater, controlled power, should result in making more accurately reproducible radiographs. There is very little evidence at hand to show the need for taking chest radiographs, in the ordinary case, by exposure speeds greater than 1/30 of a second, for the prevention of the distortion effects of heart motion. For the accurate radiologic study of non-tuberculous basal processes in the adult and basal parenchymal bronchopneumonic lesions of tuberculous etiology in the child, an exposure time of not less than 1/10 of a second should be used.

There are those who feel that the intradermal and subcutaneous tuberculin tests, together with laboratory studies of the blood, form important accessory guides to the discovery of the early tuberculous lesion. Steidl and Heise<sup>17</sup> have recently resurrected and restudied the subcutaneous tuberculin tests as relating to the furnishing

of important assistance in the diagnosis of "activity," in connection with the tuberculous lesion whose existence has already been demonstrated. Their work did not in any way serve to alter the preponderant opinion of one or two decades ago, namely, that the procedure cannot be regarded as a safe or useful diagnostic procedure when finding that a "safe" dosage of O. T. given subcutaneously does not exclude the diagnosis of tuberculosis even when no symptomatic or focal reaction has resulted. Damage has frequently resulted from "unsafe" dosages, the objective then oftentimes being to test the stability of the fibrous permeations or envelope rather than a testing for the existence of a soft un-fibrosed process.

The blood sedimentation test and the monocytic-lymphocytic ratio are laboratory guides utilized in the more progressive of our sanatoria at this time.<sup>18,19</sup> They, together with symptoms, sputum examinations, temperature graphs, and physical signs yield supplementary information to the radiograph on a treatment or prognostic basis rather than being initially diagnostic.<sup>20</sup>

Considerable confusion has resulted in the minds of many, despite the knowledge that the intracutaneous tuberculin test quite accurately discloses those individuals, particularly children and young adults, who have been infected by tuberculosis, significantly in 1 per cent. and without subsequent manifest disease in the remaining 99 per cent. Its usefulness, other than epidemiological, is to screen out those children who are not infected in order to save the expense of the supplementary radiographic examination. As one author states<sup>21</sup>—"Today, tuberculin is looked on as the most accurate diagnostic agent we possess"—and there should be added the words, "for infection, rather than manifest disease."

THE OCCURRENCE OF PHYSICAL SIGNS (RÂLES)  
IN \*206 CONSECUTIVE CASES OF ACTIVE PULMONARY TUBERCULOSIS  
Admitted to Macon County Tuberculosis Sanatorium.  
(Diagnosis based upon N. T. A. Diagnostic Standards—Incl. X-Ray.)

Diagnosis	No. of Cases	Râles Noted on Admission		Râles Developing With Lesions					Râles Disappearing With Lesions				
		No.	%	Arrested		Retrogressive		Total	Arrested		Retrogressive		Total
				No.	%	No.	%		No.	%	No.	%	
Minimal .....	48	16	33.3	5	10.4	1	2.1	12.5	5	10.4	0	..	10.4
Moderately Advanced...	71	49	69.0	6	8.6	3	4.2	12.8	6	8.6	2	2.8	11.4
Far Advanced .....	80	71	88.8	1	1.3	5	6.3	12.5	0	..	2	2.5	2.5
TOTALS .....	199	136	68.3	12	6.3	9	4.5	10.8	11	5.5	4	2.2	7.5

\*7 of which were re-diagnosed "Non-Tuberculous" with 100% representing râles on both admission and discharge.



## SUMMARY

1. The most modern diagnostic technique for the discovery of early manifest pulmonary tuberculosis requires the routine use of well taken chest roentgenograms.

2. Of 206 consecutive cases of active pulmonary tuberculosis admitted to the Macon County Tuberculosis Sanatorium, Decatur, Illinois, râles were not elicited in 66.7 per cent. of the minimal group; 31 per cent. of the moderately advanced; and 21.2 per cent. of those presenting far advanced lesions.

3. It may be estimated that nearly two-thirds of cases having active pulmonary tuberculosis of minimal stage remain unrecognized after a most complete physical examination if not supplemented by chest roentgenograms.

4. Greater accuracy of interpretation of stereograms of the chest results when the exposure time is not less than 1/10 second for adults and there is contrasting visibility of broncho-vascular markings within all borders of the parenchymal field.

5. Studies upon the blood are proving to be guides of increasing usefulness in the management of the treatment case while their diagnostic roles at the present time are distinctly minor ones.

## BIBLIOGRAPHY

1. Bruns, E. H. and Van Valzah, S. L.: Non-Tuberculous Diseases Simulating Pulmonary Tuberculosis, Nat. Tuh. Ass., Trans., 1932, p. 135.
2. Bernard, L.: Demonstration of Tubercle Bacilli in Sputum and Diagnosis of Pulmonary Tuberculosis, J. A. M. A., 98, 2031, 1932.
3. Brown, Lawrason: A Study of 503 Cases of Pulmonary Tuberculosis With Indefinite or No Usual Abnormal Physical Signs, Trans. of the Ass. of Am. Phys., 46, 364-6, 1931.
4. Ellman, Philip: Chest Diseases in General Practice, 1932, Foreword VI.
5. Ellman, Philip: Chest Diseases in General Practice, 1932, p. 35.
6. Hollmann, R.: Diagnosis of Tuberculosis in General Practice, Amer. Rev. Tuberc., 26, Ahs. no. 1, p. 9, 1932.
7. Friedman, Eli, Dameshek, William, and Hawes, John B., 2nd: The examination of the Blood as an Aid in the Diagnosis of Hilum Lymph-Node Tuberculosis, Amer. Rev. Tuberc., 25, 24-31, 1932.
8. Cabognin, G.: D'Andrea's Sign in Pulmonary Tuberculosis, Amer. Rev. Tuberc., 28, Ahs. no. 2, p. 40, 1933.
9. Fales, Louis H.: A Protest Against the Conception of Arrest in Pulmonary Tuberculosis as Outlined by the Classification of the American Sanatorium Association, Amer. Rev. Tuberc., 25, 591-601, 1932.
10. McPhedran, F. Maurice: The Roentgenogram in Early Tuberculosis in Adults, U. S. Med. Bull., 30, no. 1, p. 10.
11. Rathbun, Walter L.: Tuberculosis Among High School Students, Tuh. Abs., Nat. Tuh. Ass., 4, no. 4, 1931.
12. Amherston, J. Burns, Jr., Barnard, Margaret Witter, and Loew, Marion Franklin: Comparative Value of Paper and Celuloid Films for Roentgenograms of the Chest, Nat. Tub. Ass., Trans., 1932, p. 140.

13. Stott, L. B.: Stereoscopic and Postural Radiology of the Chest, Amer. Rev. Tuberc., 26, Ahs. no. 1, p. 10-11, 1932.

14. McPhedran, F. Maurice: Report of the Committee on X-ray Apparatus and Technique, Twenty-seventh Annual Meeting of The Am. San. Ass., 1932, p. 344.

15. Weyl, Charles, Warren, S. Reid, Jr., Garrahan, C. Justus: Report of the Committee on X-ray Apparatus and Technique, Twenty-seventh Annual Meeting of the Am. San. Ass., 1932, p. 345-7.

16. Bridge, Ezra: Roentgenography of the Chest with Higher Power Factors, Twenty-seventh Annual Meeting of the Am. San. Ass., 1932, p. 348-355.

17. Steidl, John, and Heise, Fred H.: Old Tuberculin Administered Subcutaneously for Diagnosis, Amer. Rev. Tuberc., 24, 309-11, 1931.

18. Duffy, J.: Activity in Pulmonary Tuberculosis as Determined by a Comparative Study of Roentgenograms, Blood Sedimentation and Leucocytic Reactions, Amer. Rev. Tuberc., 28, Abs. no. 2, p. 40, 1933.

19. Loc. cit. (see 9).

20. Smith, David T.: Types of Blood Counts Found in Clinically Inactive Pulmonary Tuberculosis, Nat. Tuh. Ass., Trans., 1932, p. 112-113.

21. Myers, J. Arthur: Progress in the Diagnosis of Tuberculosis, J. A. M. A., 100, 2004-2006, 1933.

## EXTRAPLEURAL PNEUMOLYSIS WITH PARAFFIN PACK IN THE TREATMENT OF PULMONARY TUBERCULOSIS

JEROME R. HEAD, A. M., M. D.

Medical Director of the Edwards Sanatorium, Naperville, Ill.

CHICAGO

The parietal pleura is so loosely attached to the chest wall that it can be easily stripped from it with the gloved finger. In the operation of extrapleural pneumolysis advantage has been taken of this fact to produce collapse of tuberculous cavities localized in the apex of the lung. After resection of a segment of a rib (the second anteriorly or the third posteriorly) the extrapleural plane is located and the parietal pleura separated from the chest wall over the apex of the thorax. To maintain the compression of the lung the space left beneath the ribs is filled with paraffin. The wound is closed without drainage and the foreign material left permanently in place.

The operation has the great advantage of being simpler, safer, and less deforming than thoracoplasty and of providing a strictly localized collapse of the diseased lung without the sacrifice of normal tissue and normal vital capacity. For this reason it can be used in many cases in which thoracoplasty is contraindicated and so has increased considerably the number of far advanced cases amenable to collapse therapy.

The foreign body, fear of which has led many to reject the operation without trial, has not proved a serious drawback. In all save an ex-

ceptional case it is well tolerated and leads to no complications. If it does have to be removed because of infection, extrusion or perforation into the cavity, the patient's life is rarely threatened and his chances for eventual recovery rarely compromised. In a series of 35 operations I have had to remove the pack in no instances



Fig. 1. Roentgenogram taken before the operation showing a large cavity at the apex of the right lung.

save the three in which it was inserted in spite of the fact that the lung had been torn in the course of the operation.

The operation is indicated in the following conditions:

1. Unilateral or bilateral small apical cavities in which there is no active or progressing disease and no disease in the remainder of the lung.
2. Large cavities and more extensive disease in cases in which the condition of the patient or disease in the opposite lung contraindicate thoracoplasty.
3. To supplement thoracoplasty when complete resection has failed to close a cavity.
4. As a preliminary operation to thoracoplasty to decrease the size of very large apical cavities. This last indication has not been mentioned elsewhere and is, I believe, of great importance. Extremely large apical cavities frequently remain open even after resection of the full lengths of the ribs. If a pack is first inserted the cavity is so decreased in size and the mediastinum so stiffened that a subsequent thoracoplasty will be more certainly effective.

During the past two years I have treated 9 patients with this sequence of operations. All now have negative sputum save two in which cavities in the opposite lung preclude the possibility of rendering them bacilli free.

During the past two years I have performed extrapleural pneumolysis upon 29 patients suffering from pulmonary tuberculosis. There have been no early or late deaths from the operation and only one patient has been made worse. The results are shown in the following chart:

	No. of Cases	Sputum Neg.	Improved	Unimproved	Worse	Dead	Operation Accomplished Purpose	Have Had Thoracoplasty	To Have Thoracoplasty	Sputum Neg.
Ideal Cases .....	6	6	0	0	0	0	6	0	0	6
Large Cavities .....	10	3	5	2	0	0	5	2	5	4
Bilateral Cases .....	9	0	7	1	1	0	1	5	0	2
After Thoracoplasty...	3	0	3	0	0	0	1	0	0	0
Total .....	28	9	16	3	1	0	13	7	5	12

It should be particularly noticed that in the strictly ideal cases the results have been uniformly good.

SUMMARY AND CONCLUSIONS

Extrapleural pneumolysis with paraffin pack has a definite place in the surgical treatment of



Fig. 2. Roentgenogram taken following extrapleural pneumolysis with paraffin pack. The cavity has been closed and the sputum negative since the operation.

pulmonary tuberculosis. It has the great advantages of being simpler, safer, and less deforming than thoracoplasty and of collapsing disease



without sacrificing normal lung. In all save an occasional case the foreign body is well tolerated and the complications which do arise from it are rarely serious, and rarely prejudice the patient's chances for ultimate recovery. Small apical cavities and lesions can be treated by it with a very high percentage of successful results. While for larger cavities the results are far less certain, the operation offers definite possibilities of cure. In case the sputum remains positive a subsequent thoracoplasty is more certain to be effective for the partial collapse already provided.

### URETEROCELE

DAVIS H. PARDOLL, M.D.

CHICAGO

Lechler, in 1835, was probably the first to describe the lesion which today is recognized as ureterocele. Various descriptive terms such as cystic dilatation of the lower end of the ureter, intravesical ureteral cyst, and hernia of the ureter have been applied to this condition. The pathologic picture presents a cystic dilatation of the lower end of the ureter usually involving all its walls without modification of its constituent tissues. Many observers have failed to recognize this pathologic entity and have confused it with prolapse of the ureteral mucosa in which there exists a redundancy of the mucous membrane of the intravesical portion of the ureter.

It is interesting to observe the various theories that have been advanced as the cause of ureterocele. A review of the literature on this subject states that the lesion is due to a congenital and developmental malformation. This is the most generally accepted and seemingly most plausible explanation and is supported by the fact that stenosis of the ureteral meatus is usually present. As a result of this stenosis, dilatation or ballooning out and lengthening of the lower portion of the ureter occurs. Marimer, who is in accord with Patch, states that in only four out of a series of 42 cases was stenosis absent. Obstruction higher up in the region of the attached seminal vesicle or adhesions of the broad ligament in the female, causing paralysis of the vesical end of the ureter with subsequent atony is the theory propounded by various other investigators who disagree with the congenital origin of this condition.

The symptoms which are produced by the ureterocele may be referable to both the upper and the lower urinary tract and will be dependent upon the associated pathology.

A. *Upper Urinary Tract Symptoms:* As a consequence of the contracted ureteral orifice, back pressure on the ureter and renal pelvis may occur with the production of varying degrees of hydro-ureter and hydronephrosis. It has been radiographically demonstrated, however, that the size of the ureterocele does not influence the amount of dilatation to be found in the upper urinary tract. Also, infection may supervene with pyelonephritis, pyonephrosis and calculus formation.

1. Renal Pain. This is usually of a dull aching character and is situated over the side affected; occasionally it is bilateral. Definite attacks of renal colic may occur. Infection or stone formation when present, invariably add to the discomfort of the patient.

2. Ureteral Pain. Irregular contractions of the ureter attempting to force the collected urine through the contracted orifice may be productive of varying degrees of backache or pain in the groin and at times may simulate rather definite ureteral colic.

3. Hematuria. The appearance of blood in the urine may be the only symptom present and is probably explained by the congestion which occurs in both the kidney and ureter. One must bear in mind that the complications which occur may also account for this particular finding.

B. *Lower Urinary Tract Symptoms:* These are due to the presence of the ureterocele in the bladder with or without infection.

1. Vesical Irritation. This may cause frequency of micturition and a feeling of fullness in the bladder. Infection, in itself, may be responsible for the frequency.

2. Urethral Obstruction. Sometimes, with a large cyst, there may be actual obstruction to the passage of urine from the bladder through the internal meatus and occasionally retention may result.

3. In females—The cyst has been reported to have appeared at the external meatus occasionally and to be visible on inspection.

Ureterocele occurs with slightly increased frequency in the female. Usually the patients

seek relief at an average age of 30.5 years at which time the condition is discovered. The left side is affected almost twice as often as the right and in 15% of the cases the condition has been found bilateral.

Ureterocele may be divided into two varieties respectively, mucous and muscular. The pathologic picture is as follows:

1. *Mucous Type.* Here the cyst wall is composed of a double fold of mucous membrane, the outer being vesical and the inner ureteral in origin. This variety is the more common and appears translucent when seen through the cystoscope with clearly defined blood vessels coursing over its surface.

2. *Muscular Type.* In this type the inner and outer walls consist of mucous membrane as before, but interposed between these is a varying amount of muscular tissue derived from the wall of the ureter. The cyst is opaque, while the blood vessels are fewer in number and less clearly defined.

If in either kind of ureterocele the ureteric orifice is watched, the cyst will be seen to swell up due to the distension of its lumen by a peristaltic rush of urine. Next follows a small prolonged efflux through the usually contracted opening with the gradual shrinkage and disappearance of the cyst. When completely emptied, it may present a convoluted worm-like appearance depending upon its size and the redundancy of the tissues. With a further rush of urine from above the cycle recommences.

These changes are best observed when the bladder is only moderately distended, for if too much fluid is present the intravesical pressure exceeds that within the ureter and for obvious reasons the cyst is unable to expand.

The orifice as a rule is situated in the center of a small nipple or papilla which does not take part in the general expansion. This projection may be either at the summit of the cyst or laterally placed. When located posteriorly, it only comes into view when the ureterocele is collapsed. Occasionally there may be a double orifice present with reduplication of the ureter.

The complications which occur are usually the result of mechanical obstruction with infection superimposed. The contracted ureteral orifice occasionally produces hydro-ureter and hydronephrosis. When infection occurs, pyelonephritis

and pyonephrosis may result. Calculi have been found associated with ureterocele and are due to urinary stasis and infection. When the cyst is of large size, obstruction at the internal urethral orifice may take place.

Although clinically the diagnosis of ureterocele is rarely if at all possible, cystoscopic examination readily discloses the condition. The presence of frequency, lumbar pain and hematuria require a complete urologic examination and the characteristic appearance of the sausage-shaped tumor involving the ureteral orifice is discovered. The walls of the lesion are the same color as that of the adjacent vesical mucosa and the blood vessels are continuous with those of the mucous membrane. Gradually the dilated portion of the ureter is seen to expand and balloon out as it becomes filled with urine and with the gush of fluid from the ureteral orifice the swelling disappears.

The conditions which should be excluded in the differential diagnosis are ureteral prolapse; tumor of the bladder, extravescical pressure producing an inversion of the bladder wall and polypus of the ureter.

Prolapse of the ureter is a small cone-like projection and can easily be repositied by a catheter; also, its color is darker than the surrounding mucous membrane. Blood vessels are absent on its surface and there is no ballooning with subsequent collapse.

Bladder tumors can usually be distinguished by their relationship to the ureteral orifice and by their origin from the mucosa of the bladder.

Close inspection will also aid in the differentiation of polypi originating in the ureter and projecting from the orifice. Occasionally intravenous urography is found to be a valuable adjunct in the differential diagnosis of this condition.

The x-ray findings usually disclose varying degrees of dilatation of the lower portion of the ureter with relative freedom of both pelves and calices. No doubt this is dependent upon the amount of ureteral stenosis and the duration of the condition. As previously stated, the size of the ureterocele does not influence the extent of the dilatation.

The treatment employed may be either suprapubic or transurethral depending upon whether or not complications exist. In the presence of



calculi, vesical removal with complete resection of the walls and circular suture of the edges is advisable. Also, where extensive inflammatory changes or huge hydronephrosis with hydro-ureter exist, nephrectomy may be required. In most cases, however, destruction of the ureteroceles by electro-coagulation through an operative cystoscope will suffice. The lesion is brought into view and the orifice located. The electrode is applied as far as possible from the opening of the ureter and coagulation begun. An attempt should be made to pierce and to destroy the wall as completely as possible so that the urine may have a free exit into the bladder. This is by no means always possible, for the sac soon tends to collapse from reflex inhibition of renal excretion thus making the application of the electrode a matter of great difficulty. Intramural scarring may result from too energetic a desiccation. In no case should coagulation extend to the papilla on which the orifice is situated, as occlusion will certainly take place. In the event of failure to rupture the cyst, complete blockage of the ureter on the affected side may occur. Should rupture of the wall be impossible by diathermy and the papilla become occluded in the coagulation, a small area of the coagulated tissue should be excised by means of a scissors introduced through the cystoscope. When the condition is bilateral it is advisable to repair one side at a time.

The postoperative treatment consists of alkalization for several days followed by the administration of urotropin in an acid medium. The prognosis is usually most satisfactory. By the end of six weeks the sloughing has been completed and the inflammatory reaction has disappeared. The orifice now appears almost normal with a slight permanent enlargement. The urine is ejected in a strong gush instead of in a small prolonged stream and practically no distension is apparent.

4753 Broadway

#### BIBLIOGRAPHY

- Levandera, Surg. Gyn. and Obs., 32: 139-140, 1921.  
 Harnagel, E. J., Jour. of Urol., 10: 141-147, 1923.  
 Hubner, A., Zeitsch f. urol. Chir., 17: 29-32, 1923.  
 Petillo, D., Surg. Gyn. and Obs., 40: 811-818, 1925.  
 Patch, F. S., Jour. of Urol., 16: 125-136, 1926.  
 Brown, D. A., Jour. of Urol., Nov., 16: 363-367, 1926.  
 Gottlieb, J., Zeitsch f. urol. Chir., 19: 345-367, 1926.  
 Landwust, C. von, Zeitsch. f. urol. Chir., 20: 439-453, 1926.  
 Chwalle, R., Urol. and Cut. Rev., Aug., 1927-28, 31: 499-504, 1927.  
 O'Connor and Johnson, Jour. of Urol., Jan., 23: 33-42, 1930.  
 Ainsworth-Davis, J. C., Brit. Jour. Surg., 19: 548-556, 1932.  
 Carver, J., Brit. Jour. of Urol., 4: 2, 1932.

## BENIGN BONE CYST IN THE NEWBORN

Report of a Case

VITO WITTING, M. D. AND

JAMES B. GILLESPIE, M. D.

URBANA, ILL.

The occurrence of localized bone lesions in the newborn is very rare. Reports of neoplasms, benign and malignant, occurring in infants and very young children are not infrequent. Congenital malignant tumors are reported from time to time. The occurrence of congenital new growths or cystic changes in the osseous tissues of the newborn were not mentioned in extensive reports on fibrocystic disease by Bloodgood,<sup>1</sup> Elmsie,<sup>2</sup> Geschickter and Copeland,<sup>3</sup> Schinz and Uhlinger,<sup>4</sup> nor by Frangenheim,<sup>5</sup> Grulee,<sup>6</sup> or Reuss<sup>7</sup> in their works dealing with pathology of bone in the newborn. In an extensive literature covering cystic diseases of bone we have found reported but three cases,<sup>8,9,10</sup> in which a diagnosis of congenital benign bone cyst has been made. It is apparent that such lesions are extremely rare.

*Case report.* The patient was born July 16, 1933. The mother was 29 years of age, a primipara, and had regular prenatal care after the fourth month of pregnancy. She was first seen January 7, 1933. Three weeks prior to that time she had been ill with "grippe." Her physical examination was essentially negative except for a small adenoma of the thyroid. The blood pressure was 130/70, urinalysis and blood count were normal. The blood Wassermann was negative. Her condition was excellent for the duration of pregnancy, and July 16, 1933, she was delivered of a baby girl weighing eight pounds and five ounces.

During routine examination of the baby on the day following birth a slight enlargement of the lateral aspect of the left leg was noted. The enlargement was not tender and was apparently confined to the middle portion of the left fibula. Overlying soft tissues were normal; she moved the left leg as she did the right one. Examination was otherwise negative. Hemoglobin was 18.2 grams per one hundred cc. of blood, erythrocytes 5,380,000, leucocytes 14,800 of which 65% were lymphocytes, 24% polymorphonuclear neutrophils, 7% monocytes, 3% eosinophiles, and 0.5% basophiles. Urinalysis was negative including repeated test for Bence-Jones protein. The blood Wassermann, and Mantoux test with 0.1 mg. of old tuberculin was negative. X-ray of the left leg showed a fusiform expansion of the left fibula extending from its middle third to a point one-half inch above the epiphyseal line. The bone was destroyed in this area except for a thin shell of cortex; the destruction was sharply limited at the upper and lower ends by concave lines. A small round area of destruction surrounded by normal bone and bordering the epiphyseal line was also noted distal to the larger

lesion. Roentgenograms of the skull and other long bones were negative.

Splinting of the leg was unnecessary since the left tibia was normal. The mother was unable to nurse the baby and a cow's milk formula with Karo was supple-

menting of the left leg, the last examination was negative.

In differential diagnosis the following lesions were considered: osteomyelitis, syphilis, tuberculosis, mycosis, echinococcus and cysticercus cyst, myeloma, metastasis, sarcoma and benign bone cyst. Osteomyelitis was excluded by the roentgenographic appearance and syphilis and tuberculosis by the negative histories and Wassermann and Mantoux tests. Mycotic and parasitic lesions were very improbable. Negative test for Bence-Jones protein practically excluded myeloma. Metastasis rarely cause the expansion of bone noted in this case and osteogenic sarcoma was improbable because of the sharp limitation of bone destruction. Moreover, the clinical course and changes in roentgenographic appearance over a period of months was not that of malignancy.

The lesion was quite evidently a benign bone



Fig. 1. X-ray taken July 17, 1933. Cystic area of destruction extending from middle third of fibula to a point one half inch above the epiphyseal line. A small round area of destruction is distal to the larger lesion.

mented. She was dismissed from the hospital and has been seen at regular intervals since.

A subsequent roentgenogram taken at two months of age showed an appreciable decrease in the fusiform expansion of the fibula at the site of the large cyst. The small cystic area below was slightly increased in size. A third roentgenogram taken October 18, 1933, at three months of age showed the fibula of almost normal size. The main cystic area was almost completely filled in with bone of normal density except for a small area in the lower portion. The small cystic area below was unchanged from the appearance in the previous roentgenogram. Figures 1, 2, and 3 show the successive roentgenograms.

The general condition of the baby has been excellent and she has gained weight. Except for a very slight



Fig. 2. X-ray taken September 18, 1933, (two months of age). Decrease in the size of large cyst. The small cystic area slightly larger.

cyst. Three cases of benign bone cyst in the newborn have been reported. Clinically the cases were instances of congenital pseudarthrosis associated with fracture. The diagnosis of bone cyst was made by histological examination.



Camurati<sup>11</sup> has defined pseudarthrosis as a localized osseous dystrophy characterized by alteration in the form and structure of the tibia with or without solution of the continuity, and at times associated with a similar lesion in the fibula. The features of pseudarthrosis are sufficiently uniform to suggest a common pathology. Stierlin, Beust, and Frangenheim on the basis of histological examination believe cystic disease of the bone is the underlying condition in pseu-



Fig. 3. X-ray taken October 18, 1933, (three months of age). Main cystic area almost completely filled in. Small cystic area is unchanged.

arthrosis. There was no involvement of the tibia in the case herein reported; the spontaneous healing and absence of fracture or deformity distinguishes the condition from pseudarthrosis.

Frangenheim has noted two features in these previously reported cases of congenital bone cyst not in accord with the present conception of cystic bone disease. The involved bones in the

adult are rarely those of the leg as they were in the three cases. Moreover, the delayed and difficult consolidation was in sharp contrast to the usual prompt healing of fractures at the site of cysts. To these we would add that it is rare for the lesions of osteitis fibrosa cystica to be found at the same level in the tibia and fibula as they were in the three reported cases. The x-ray evidence in these instances was not conclusive. Moreover, Keith Inglis<sup>12</sup> and Camurati, in histological study of the lesions of pseudarthrosis have failed to find evidence of osteitis fibrosa cystica. It seems questionable, therefore, whether the lesions described were true osteitis fibrosa cystica. We believe localized cystic bone disease in the newborn, without fracture or deformity and with spontaneous healing, has not been previously reported.

The benign course and roentgenographic appearance differentiates it from the so-called pseudarthrosis. It is a lesion entirely different from those three heretofore described as congenital benign bone cyst.

Carle Hospital Clinic.

#### BIBLIOGRAPHY

1. Bloodgood, J. C.: Benign Bone Cysts, Osteitis Fibrosa. Giant Cell Sarcoma and Bone Aneurysm of the Long Pipe Bones. *Ann. Surg.* 52: 145-185, 1910.
2. Elmslie, R. C.: Fibrocystic Diseases of the Bones. *Brit. Jour. Surg.* 2: 17-67, 1914.
3. Geschickter, C., Copeland, M., Bloodgood, J. C.: Osteitis Fibrosa and Giant Cell Tumor. *Arch. of Surg.* 19: 169, 1929.
4. Schinz, H. R. and Uhlinger, E.: Zur Diagnose, Differential Diagnose, Prognose und Therapie der Primären Geschwulste und Zysten des Knochenystems. *Ergebn. d. med. Strahlenforsch* 5: 387-506, 1931.
5. Frangenheim, P.: Die Krankheiten des Knochenystems in Kindesalter, Stuttgart, F. Enke, 1913.
6. Grulee, C. G. and Bonar, B. E.: The Newborn-Diseases and Abnormalities, Clinical Pediatrics, Vol. 3, New York, Appleton D. Appleton and Co. 1926.
7. Reuss, A.: Pathologie des Neugeborenen. Biologie und Pathologie des Weibes Vol. 8, Hrsg. V. J. Halban u. L. Seitz Berlin u. Wien, Urban u. Schwarzenberg, 1926.
8. Stierlin, E.: Ostitis Fibrosa bei Angeborener Fraktur. *Deutsche Ztschr. f. Chir.* 130: 85-117, 1914.
9. Beust, V.: Ostitis Fibrosa und Knochenzyste bei Angeborener Unterschenkelfraktur. *Deutsche. Ztschr. f. Chir.* 152: 60-91, 1920.
10. Frangenheim, P.: Angeborene Ostitis Fibrosa als Ursache einer Intrauterinen Unterschenkel Fraktur. *Arch. f. Klin. Chir.* 117: 22-29, 1921.
11. Camurati, M.: Le Pseudoartrosi Congenite Della Tibia. *Chir. d. Org. di Movimento* 15: 1-162, 1930.
12. Keith, Inglis: Quoted by Camurati.

MEDICAL SERVICES UNDER THE FEDERAL EMERGENCY RELIEF ACT  
OF 1933

WILLIAM C. WOODWARD, M.D.  
CHICAGO

An understanding of the system of medical relief that the Federal Government, in cooperation with the States, has undertaken to establish under the Federal Emergency Relief Act of 1933, requires a brief consideration of an earlier act, the Emergency Relief and Reconstruction Act, approved by President Hoover, July 21, 1932. For the relief of destitution, the Emergency Relief and Reconstruction Act of 1932 authorized the Reconstruction Finance Corporation to make \$300,000,000 available to the several States and Territories, "to be used in furnishing relief and work relief to needy and distressed people and in relieving the hardship resulting from unemployment." The money thus advanced to the several States and Territories was not in the form of outright grants, but in the form of advances, to be reimbursed to the Corporation, with interest, through annual deductions from prospective apportionments from future subsidies by the Federal Government to the States and Territories to aid in the construction of roads. To obtain such advances, the governor of a State or Territory was required to make application and to certify that the funds applied for were necessary and that the resources of the State or Territory were inadequate to meet its relief needs. All money advanced to the State was to be administered by the governor or under his direction, and on his responsibility. The act authorized the governor to use money so advanced "in furnishing relief and work relief to needy and distressed people and in relieving the hardship resulting from unemployment." It neither authorized nor forbade in specific terms the use of such money to defray the expenses of medical service and hospital care. But the act was strictly construed, and the difficulty of proving that sickness or injury calling for relief or hospital care in any given case resulted from unemployment seems to have operated as an effectual barrier to payments for such service out of funds advanced by the Federal Government. In this and

in other respects the Emergency Relief and Reconstruction Act of 1932 failed to provide the intended relief, and the Federal Emergency Relief Act of 1933 was the result.

The Federal Emergency Relief Act of 1933 was approved by President Roosevelt, May 12, 1933. It created a new organization, the Federal Emergency Relief Administration, under the direction of a Federal Emergency Relief Administrator, as the agency through which the Federal Government will during the next two years cooperate with the several States and Territories in efforts to relieve hardship and suffering caused by unemployment. In express terms, the act states:

"That the Congress hereby declares that the present economic depression has created a serious emergency, due to widespread unemployment and increasing inadequacy of State and local relief funds, resulting in the existing or threatened deprivation of a considerable number of families and individuals of the necessities of life, and making it imperative that the Federal Government cooperate more effectively with the several States and Territories and the District of Columbia in furnishing relief to their needy and distressed people." The act requires the Reconstruction Finance Corporation to make available to the Federal Emergency Relief Administration not to exceed \$500,000,000, in addition to the funds authorized under the Emergency Relief and Reconstruction Act of 1932. It authorizes the Federal Emergency Relief Administrator to make grants to the several States to aid in meeting the cost of furnishing relief and work relief and in relieving the hardship and suffering caused by unemployment, in the form of money, service, materials, and commodities, to provide the necessities of life to persons in need as a result of the present emergency and to their dependents. Grants are classified as follows:

1. Not to exceed \$250,000,000 is available for grants to the several States, each State being entitled to receive an amount equal to one-third of the amount expended by the State and its civil subdivisions, out of public moneys, for relief purposes. Grants are made quarterly, on the basis of the certified expenditures of each beneficiary State during the preceding quarter.

2. The balance of the money made available by the act, after setting aside the \$250,000,000 covered by paragraph 1, above, except such amount as may be required for administrative expenditures, is to be used for additional grants to States, whenever, on application made by a State, the Administrator finds that the money that can be made available within the State, supplemented



by the federal grant authorized by paragraph 1, will fall below the estimated needs within the State.

3. Additional grants of federal money to the States may be made to aid needy persons who have no legal settlement in any one State or community, and to aid in assisting cooperative and self-help associations for the barter of goods and services.

4. After October 1, 1933, the unexpended balance of the money available under the provisions of paragraph 1 may, in the discretion of the Administrator and with the approval of the President, be used for grants under paragraphs 2 and 3.

The amount available to any one State under paragraphs 1 and 2 cannot exceed 15 per cent. of the total amount available under those paragraphs.

To obtain federal grants under the Federal Emergency Relief Act of 1933, a State must make application to the Administrator through its governor. If the Administrator approves the application, he certifies it to the Reconstruction Finance Corporation, which, unless the Administrator revokes his certificate, pays the State such amounts as the Administrator directs. The governor of a State receiving a grant must file with the Administrator monthly the report of disbursements made under the grant received. The Administrator may, under rules and regulations prescribed by the President, assume control of the administration in any State of the relief provided by federal funds, if in his judgment more effective and efficient cooperation between the state and federal authorities may thereby be established. The Federal Emergency Relief Administration and the office of the Federal Emergency Relief Administrator are to cease to exist on the expiration of two years after the date of the act; that is, on May 12, 1935.

So far we have discussed only the basic acts of Congress that underlie the relief plan. Rules and regulations to carry into effect the act now in force have been promulgated by the Federal Emergency Relief Administration. Rules and Regulations Governing Expenditures of Federal Emergency Relief Funds, No. 1, were promulgated, June 23, 1933. Rule 1, section (b), provides that

"Grants made to the States from Federal funds under the Federal Emergency Relief Act of 1933 may be used for the payment of medical attendance and medical supplies for those families that are receiving relief." Section (d) of Rule 1 provides, however, that

"These funds may not be used for the payment of hospital bills . . . , or for providing general institu-

tional care. These necessary services to the destitute should be made available through State or local funds."

Rules and Regulations No. 3, promulgated July 11, 1933, specifically provide that orders for medicine, medical supplies, and medical attendance be furnished in the home.

To define definitely the conditions under which medical attendance and medical supplies may be furnished Rules and Regulations No. 7, Governing Medical Care Provided in the Home to Recipients of Unemployment Relief, were promulgated in September, 1933. These are the rules and regulations with which most members of the medical profession are presumably now familiar. They define "medical care" as including medicine, medical supplies, and medical attendance. They authorize bedside nursing as an adjunct to medical care. Emergency dental services are also authorized. With respect to medical care, the policy to be followed by state and local relief administrators is defined as follows:

"A uniform policy with regard to the provision of medical, nursing, and dental care for indigent persons in their homes, shall be made the basis of an agreement between the relief administration and the organized medical, nursing, and dental professions, State and/or local. The essence of such a policy should be:

"(a) An agreement by the relief administration to recognize within legal and economic limitations, the traditional family and family-physician relationship in the authorization of medical care for indigent persons in their homes; the traditional physician-nurse relationship in the authorization of bed-side nursing care; the traditional dentist-patient relationship in the authorization of emergency dental care; and

"(b) An agreement by the physician, nurse (or nursing organization), and dentist to furnish the same type of service to an indigent person as would be rendered to a private patient, but that such authorized service shall be a minimum consistent with good professional judgment, and shall be charged for at an agreed rate which makes due allowance for the conservation of relief funds.

"The policy adopted shall be to augment and render more adequate facilities already existing in the community for the provision of medical care by the medical, nursing, and dental professions to indigent persons. It shall imply continuance in the use of hospitals, clinics, and medical, dental, and nursing services already established in the community and paid for, in whole or in part, from local and/or State funds in accordance with local statutes or charter provisions. Federal Emergency Relief Funds shall not be used in lieu of local and/or State funds to pay for these established services.

"The phrase 'in their homes' shall be interpreted to include office service for ambulatory patients, with the

understanding that such office service shall not supplant the services of clinics already provided in the community."

The rules and regulations then go on to provide the procedure to be adopted in applying for, authorizing, and rendering medical services, dental services, and bedside nursing care, prescribing among other things the way in which fee schedules shall be established.

"The agreement between the State and/or local relief administration and the organized professional groups of physicians, nurses, and dentists, State and/or local, established under regulation 1, shall include a fee schedule covering the basic and special services outlined in sections (b) to (f), inclusive, of this regulation."

The basic and special services referred to include services in cases of acute and chronic illness, obstetrical care, ordinary bedside nursing care, special and accessory medical and nursing services, emergency dental extractions and repairs and special dental services. The regulations suggest that in the interests of simplified accounting, a flat rate be established on a per visit basis for the usual care given in acute and chronic illness, for attendance at confinement, for emergency extractions, and for bedside nursing visits, and that all special services be covered by an agreed reduction from the usual minimum fee schedule for such services with an agreed maximum. A recognized differential between fees for home and office visits is recommended and it is provided:

"All fees shall be established on the basis of an appreciable reduction from the prevailing minimum charges for similar services in the State and local communities, with due recognition of the certainty, simplicity and promptness of payment that authorization from the local relief administration insures."

While the rules and regulations tend to insure patients freedom in choice of physicians, in the exercise of such freedom patients are necessarily limited to choice from among those physicians who are willing to give their services on the terms laid down in the rules and regulations and in local supplementary agreements thereto, including State or local fee schedules. The local relief administration must know, therefore, which physicians are willing to render their services on such terms and must be provided with lists of physicians who are willing so to serve. Such a list can be established only

when local physicians who are willing to serve signify their willingness. Only under such conditions can the officer of a local relief administration promptly tell an applicant for medical relief whether the physician whose services the applicant desires is available.

To the medical profession, one of the most important features of Rules and Regulations No. 7, is their recognition of organized medicine and of the importance of cooperation between relief organizations and organized medicine. Section 3 (a) provides:

"State and local relief administrations shall request the presidents of the State and local medical, nursing, dental, and pharmaceutical organizations, respectively, to designate an existing committee or appoint a special committee, to advise them in the formulation and adoption of adequate programs for medical, nursing, and dental care in the home for indigent persons. The relief administrations shall be responsible for the final adoption of such programs. The medical, nursing, dental, and pharmaceutical advisory committees can assist these administrations in maintaining proper professional standards and in enlisting the cooperation of the constituent, professional membership in such programs. Local medical, nursing, and dental programs submitted to the State relief administration for approval should be submitted to the appropriate professional advisory committee for comment, before final approval is given. The appropriate professional advisory committees should be consulted by relief administrations with regard to disputed problems of medical, nursing, and dental policy and practice."

It remains now for the medical profession to justify the confidence that has been thus placed in it. The efficiency of medical relief under the program outlined in Rules and Regulations No. 7 depends largely on the willingness of state and local medical associations to cooperate with state and local relief administrations. When these two forces work together to accomplish the desired end, success is likely to follow. If these agencies pull apart, bickering, strife, and difficulty is certain. Whenever there is evidence of misunderstanding or unwillingness to cooperate, an effort should be made to determine the cause of disagreement and to remove it, even if it be necessary to remove some member or members of the state or local relief administrations or of state or local medical committees. Harmony is the keynote of success.

7100 South Shore Drive.



## URETERAL CATHETERIZATION AS AN AID IN GYNECOLOGIC SURGERY

CLARENCE C. SAELHOF, M.D.  
CHICAGO

Accidental severance of the ureter is one of the potential dangers in performing any surgical procedure on the female pelvic organs. These accidents may be due to congenital malformation and malposition or to ureteral inclusions by pathology of the adnexa.

During the past two years, seven cases have been observed in which one or both ureters have been involved, the accidents occurring during hysterectomy or pan-hysterectomy.

For six months, it has been deemed advisable in all cases of surgical procedure of pelvic laparotomy for gynecologic pathology, to routinely catheterize both ureters. The catheterized ureters are easily visible and readily palpable. There has been no renal pathology subsequent to catheterization in any instance.

4456 W. Madison St.

## SOME WEAK POINTS IN THE PSYCHOANALYTIC DOCTRINE OF THE UNCONSCIOUS

ISIDORE FINKELMAN, M. D.  
ELGIN, ILL.

Scientific evidence for the concept of the unconscious mind has not yet been presented. I do not doubt that psychoanalysis has removed many psychoneurotic symptoms and helped many a maladjusted individual, but this is not evidence for the truth of the psychoanalytic assumptions. The cures obtained through belief in any cult do not demonstrate the scientific foundation of that cult.

Psychoanalysis is said to be a "depth psychology." The individual has unconscious thoughts, feelings, and desires which the other schools of psychology do not deal with as the proper field for psychology.

There are several contradictions in the conception of an unconscious mind—thinking, feeling, desiring—independent of the personal consciousness of the individual.

It is not denied that experiences, conscious or unconscious, leave impressions on the body. But the concept of an unconscious mind, thinking, feeling, wishing, etc., presents too many contradictions. The only way I can understand the concept idea, thought, or feeling is as an event of which I, or another bodily organism is conscious or aware at the time. Logically, it is difficult to conceive of a desire, a feeling, an idea or a thought of which an individual is not conscious. As I write this I am not conscious of the pain in my sprained ankle, but now as I shift my attention and interest to my ankle I am aware of a feeling of pain. Where is this feeling when I am not conscious of it? Where is this feeling when my attention is now shifted back to the subject matter of this paper? The sprained ankle is still present and perhaps the effect of the injury on my body, but the feeling of pain, which is an event, is no longer present, although by proper associations of ideas I can become conscious of it. The two events of a feeling of pain which I experienced as I shifted my attention to my ankle on two occasions are different, although they refer to the identical ankle. The concept of the feeling existing all the time unconsciously must postulate an unconscious thinker or feeler within me. Such a concept is not within the field of psychology as a natural science.

The argument against the continuous existence of an idea in the unconscious is very clearly stated by Prof. M. R. Cohen.<sup>1</sup>

"The idea of an unconscious thinker within me, separate from my own consciousness, does not explain anything. It is simply a reduplication of the fact that our organism is conscious and that we recognize certain acts of ours as fulfilling our intentions or desires.

"There is no necessity of supposing that when I forget a name and then later recollect it, the idea had a continuous existence in the subconscious. Ideas are not things, but events, and when an idea recurs it is the object meant or referred to that is the identical element in the two events. Otherwise they are two different events in the same organism.

"It has been argued that even if an idea be viewed as an event like the glow of a burning object, it is natural to suppose that between the intervals, when it flares up, the process of burning continues though on a reduced basis. But this is quite unnecessary. A carbon may become incandescent when an electric current of a certain kind is passed through it, and become black again and have no incandescence at all when the current falls below a given strength."

From the Elgin State Hospital and the Department of Nervous and Mental Diseases, Northwestern University Medical School.

The Freudian psychology interprets symptoms of maladjustment on the assumption of a repressed infantile sexuality; ideas colored by an emotional state that accompanied a sexual event or sexual desire are repressed into the region of the unconscious. There they tend to lead an independent existence giving rise to various symptoms. The Freudians are criticized for interpreting all symptoms of maladjustment on a sexual basis as there is evidence that feelings of inferiority and economic insecurity are frequent causes of disturbed equilibrium. But even in cases where there is a sexual basis for the maladjustment, the assumption of unconscious conflicts, feelings and wishes is just as illogical as the assumption of demoniacal possession. The following case illustrates this point:

G. W., a white woman was admitted to the Elgin State Hospital at the age of 48. There is no history of mental illness in the family. As a child she had diphtheria but no other illness. She had an eighth grade education, no employment outside of the home and was married at 19. There is a daughter ten years old. The patient was very disappointed at the time of this child's birth as she had wished for a son. Two years later there was a miscarriage and after that there were no other pregnancies. She frequently talked about having another child; was quarrelsome, always preferred to be alone, did not confide in anyone nor had any friends. She had temper tantrums and hated her mother. Ten years ago was entertained by her sister in Minneapolis but refused to allow her sister to visit her six months later. Frequently bought articles on sale and tried to return them when they were again sold at their regular price. Asked for the money back, saying she had lost the sales slip. She frequently put her mother out on the street, and one time kept her mother's coat asking for \$25 before she would return it. In June, 1933, she thought she was reaching the menopause. She wanted to be examined to be certain about it. If she were not in the menopause she would have another child. She then visited Dr. S. who examined her. She insisted that he had artificially impregnated her, saying, "Now this will give you something to think about." Went from one physician to another, finally accusing one of causing an abortion. Had a regular menstrual period after the examination and thought he had performed an abortion to protect the first doctor, who she thought had made her pregnant. She became so disturbed over this idea that she went to the County Hospital. She was committed from that place.

Physical examination did not reveal anything of note. Laboratory findings were negative. She was fairly cooperative and very soon adjusted herself to institutional routine except that she frequently stopped the doctors to tell them about her troubles. She talked coherently and logically. She was very bitter toward her husband and mother. "He is the most shamefaced

man you have ever seen. He hasn't been capable of giving me a boy. My mother showed a dreadful disposition to jealousy since the baby was born. She said I'd lose the baby before morning. This looks like some scheme of my mother and husband because of money. I think she is not my own mother." If she is not through the menopause yet she figures she would divorce her husband so that she can have a boy. Her husband is not suitable for her and she wants children and he is incapable of having them.

There is no need of assuming the existence of an unconscious mind in order to explain this patient's maladjustment. All of her difficulties are in the conscious field and she is perfectly aware of them. She knows that she wanted another child and thinks that her husband is incapable of accommodating her. She planned ahead and thought of divorcing her husband so that she may have another child. Her numerous visits to physicians were for the purpose of making sure she has not reached the menopause yet, so that she could have another child.

Her maladjustment can be explained satisfactorily without assuming an unconscious mind which has no scientific validity. We cannot conceive of such a mind as part of a visible bodily organism.

#### BIBLIOGRAPHY

1. Cohen, M. R.: Reason and Nature, New York, Harcourt, Brace and Company, 309, 1931.

### THE STATUS OF BISMUTH IN THE TREATMENT OF SYPHILIS

S. J. ZAKON, M. D.

CHICAGO

*Historical:* The first to use bismuth in the treatment of infectious diseases such as recurrent fever and syphilis were Sauton and Robert in 1916. Sauton's early death postponed the further research on bismuth till 1921 when Sazerac and Levaditi used bismuth in the treatment of experimental syphilis in rabbits. The results of these experiments were so favorable that they carried over their experiments on humans and in 1922 Sazerac, Levaditi, L. Fournier, and Guenot concluded "that bismuth is a spirillicide of remarkable activity and that its action, as much as with men as with animals, is comparable to that of the best antisyphilitic medicaments. It seems to work better than mercury and more



effectively, although in certain cases, less rapidly than the more active arsenical drugs." Thus, in a period of a few years bismuth became recognized as an active spirocheticide, of a high therapeutic index, and as a comparatively safe drug to use in all stages of syphilis. While the literature on bismuth in the treatment of syphilis is a very extensive one there is still much to learn about it. One of the many reasons for the existing confusion as to the exact status of bismuth in the treatment of syphilis is the ever increasing number and variety of bismuth compounds that are daily offered to the profession with various claims. This has a tendency to confuse the physician to such an extent that he is unable to choose correctly the type of bismuth preparation best suited to his particular case. I offer the following review of the status of bismuth in the treatment of syphilis as a guide and outline for the use of the general practitioner.

*Method of Administration.* Bismuth is for all practical purposes not effective when given by mouth, and when injected intravenously is not only a dangerous procedure but is absolutely worthless from a therapeutic standpoint. The only safe and effective method of administration of bismuth preparations at the present time is by the intramuscular route. The preparation should be drawn into the syringe through a short thick needle, which is then to be discarded for a longer one ( $1\frac{1}{2}$  to  $2\frac{1}{2}$  in. 20 to 22 gauge) and with a clean lumen. The patient being in a prone position the buttock to be injected is examined for nodes caused by previous injections. If none are found the upper outer quadrant is scrubbed with alcohol or tincture of iodine. The soft tissues are immobilized with the left hand, the needle is quickly inserted into the gluteal muscles, to a depth of 2.5 to 5 cm. (1 to 2 in.) depending on the size of the buttocks. If no blood appears in the lumen of the needle, the syringe is attached and suction applied for ten seconds. If blood does not appear in the syringe the injection may be given slowly. Then inject one or two c.c. of air. After withdrawing the needle massage vigorously for two minutes.

*Preparations.* The bismuth preparations that appear in the New and Nonofficial Remedies for 1933 are either (a) water soluble salts (b) suspensions in oil or (c) oil-soluble salts. Each type of bismuth preparation has certain ad-

vantages and disadvantages which I shall briefly enumerate.

**A. Water Soluble Salts.** These preparations are more rapidly and more regularly absorbed than the oily suspensions. This is an important factor in treating early syphilis. The disadvantages of the water soluble preparations consist in that they are usually more painful than the oily suspensions, and that they must be administered two or three times a week. This makes these preparations impractical for routine use in the clinic and economically difficult for private patients. An advantage of these preparations consist in that they are free from the serious danger of embolism. The following are some of the water soluble bismuth preparations that are included in the N. N. R. for 1933.

1. Bismuth Sodium Tartrate—Searle.

Dosage: 2 cc. (0.03 Gm) ( $\frac{1}{2}$  grain) by intramuscular injection. Initial dose is 1 cc ( $\frac{1}{4}$  grain), then 2 cc. twice or three times a week for from six to ten weeks. Total maximum dosage per course 40 cc or 440 mg.

2. Potassium Bismuth Tartrate—D. R. L.

Dosage: 2 cc. (0.1 to 0.2 Gm) ( $1\frac{1}{2}$  to 3 grains) by intramuscular injection. The injections may be repeated at intervals of from four to seven days until a total of from (2.4 to 3 Gm.) has been given. Potassium Bismuth Tartrate contains 34 to 69 per cent. of bismuth.

3. Thio Bismol—Sodium bismuth thioglycolate—P. D. & Co.

Dosage: For the average adult, 0.2 (3 grains) administered intramuscularly once or twice a week for a series of from twelve to fifteen doses i.e., a total of from 928 to 1.100 mg bismuth element per course.

4. Iodobismitol-Sodium bismuth iodide—E. R. Squibb & Sons. The claim is made for this preparation, that since it contains the bismuth as anion instead of cation, that it will penetrate the brain in a great majority of persons treated.

Dosage: Intramuscular injections of 2 cc. repeated every three days, for a series of from eight to twelve injections. Each 2 cc. contains sodium iodobismuthite 0.12 Gm., sodium iodide 0.24 Gm.

**B. Insoluble Bismuth suspensions in Oil.**

These preparations are more slowly and irregularly absorbed than the soluble solutions. However their advantages consist in that and the in-

jections are made only once a week, and that they cause much less pain than the water soluble preparations. Their disadvantages consist in that they are apt to form sterile abscesses even months after the injection and that they are apt to cause venous or arterial emboli. These complications are however great rarities. The following insoluble oily bismuth preparations are included in the N. N. R. for 1933.

1. Bismuth Salicylate in Oil—P. D. & Co.

Dosage: 1 cc. contains bismuth subsalicylate U. S. P. 0.13 (2 grains) in olive oil, containing 3 per cent. of chlorbutanol. The initial dose is  $\frac{1}{2}$  cc (0.065-1 grain), and then 1 cc each week for twelve weeks. Total dosage per course equals 1.495 Gm of bismuth. Moore, Stillians and others whose experience with bismuth preparations is extensive prefer bismuth salicylate in oil to all other preparations. This is one of our most efficacious, simple and harmless antisyphilitic drugs.

2. Mesurol. Basic Bismuth Methoxy Hydroxy Benzoate—Bayer. A suspension of mesurol in sesame oil.

Dosage: The initial dose is 0.5 cc., increased to 1 cc. at the second dose and continued until from eight to twelve doses have been administered. Each cc. of Mesurol contains 0.103 to 0.117 Gm. of bismuth. Total dosage per course equals approximately 1.356 Gm. of bismuth.

C. Oil soluble Bismuth Preparations.

These preparations, because of their solubility, are absorbed more rapidly than insoluble bismuth salts, approaching that of water soluble bismuth salts, and are not likely to cause abscess formation. Thus these preparations are supposed to possess the advantages of both the soluble and insoluble preparations without their disadvantages. These preparations are very popular in France where Levaditi, Schwartz and others used them exclusively. To these workers these preparations constitute a happy medium between the water soluble and suspensions in oil preparations. However, their disadvantages consist in the necessity of frequent administration, in that the injections are painful, and in that these preparations are still in the experimental stage. The following oil-soluble bismuth preparations are included in the N. N. R. for 1933.

1. Biliposol—a complex compound; containing about 45 per cent. of bismuth—Ulmer.

Dosage: 2 cc. contains 0.08 Gm. of bismuth. For the average adult 2 cc. are administered intramuscularly, in a series of twelve injections; three injections the first week and two injections per week thereafter. Total dosage per course equals 960 mg. of bismuth.

2. Bismo—cymol—contains between 37 and 40 per cent. of bismuth—D. R. L.

Dosage: 1 cc. contains 0.1 metallic bismuth. For the average adult 1 cc. is injected intramuscularly twice a week, or 2 cc. once a week for from six to eight weeks. Total dosage per course contains from 1.2 to 1.6 Gm. of bismuth.

3. Quiniobine—Quinine bismuth iodide rendered soluble in olive oil by means of lecithin.—Bad Homburg.

Dosage: 1 to 2 cc. twice a week for from twelve to fourteen injections. 2 cc. contains 0.06 gm. of bismuth. Total dosage per course equals from 0.72 to 0.84 Gm. of bismuth.

Clinical Use:

*Bismuth in Early Syphilis.* While there are a few men especially in France who use bismuth even in early stages of syphilis in preference to the arsphenamines by far the greater number of syphilologists both in America and abroad use bismuth only as an adjunct to and alternate it with the arsphenamines and mercury. The rational way to use bismuth in early syphilis is to alternate the three antisyphilitic drugs as follows: neoarsphenamine—bismuth; neoarsphenamine mercury; neoarsphenamine bismuth, and so on until adequate treatment is given. When bismuth alone is used in early syphilis a water soluble or lipo soluble preparation should be used in maximum doses. Bismuth is indicated in secondary lues when it is deemed advisable to withhold the arsenicals. In the presence of arsphenamine intolerance bismuth has a tremendous value. In such cases bismuth is alternated with mercury. One must however be careful that the bismuth preparation used, or the syringe and needle should not contain traces of arsenic. A recent fatality is attributed to such a case.

*Bismuth in Latent Syphilis.* It is in latent syphilis that bismuth renders the greatest benefits. In latent syphilis, in the presence of cardio-renal vascular impairment where the use of arsphenamines is often contraindicated, bismuth is the drug of choice. Bismuth has a beneficial effect on the pulse pressure, a favorable effect on



renal function, and bismuth is apparently not hepato-toxic. Excellent results are claimed for bismuth in visceral and cardio-vascular syphilis. Since the action of bismuth is less rapid than that of the arsphenamines, it produces a slow involution and absorption of the lesions. For this reason it is to be preferred to the arsphenamines and to mercury.

*Bismuth in Syphilis and Pregnancy.* Bismuth is the safest drug to use in syphilis during pregnancy. In early syphilis and pregnancy neo-arsphenamine should be combined with bismuth, whereas in latent syphilis bismuth alone will permit the pregnancy to go to full term.

*Bismuth in Neurosyphilis.* In neurosyphilis one cannot hope to obtain good results with any one drug. But here too bismuth is an excellent addition, to arsphenamine, mercury, tryparsamide, aceto-arsone, hyperpyrexia, and iodides. Iodobismuthol is especially indicated in neurosyphilis since it supposedly penetrates into the brain and spinal fluid.

Adequate treatment during pregnancy should in time eliminate the incidence of active cases of congenital syphilis. In very young infants two or three courses of acetoarsone orally should precede the use of bismuth. Bismuth according to Wright is well tolerated by children of all ages and causes a surprisingly little degree of pain. The dosage for bismuth in infants should be one-quarter of the adult dose. The injections are given into the muscles of the buttocks just as in adults. A one inch needle should be used.

#### COMPLICATIONS

In the order of frequency the complications that are seen during a course of bismuth treatment are:

1. Stomatitis and gingivitis. This is characterized by the appearance of a blue line about the posterior aspect of the lower incisors. The line appears sooner and is heavier in the presence of dental infection, carious teeth, and poor oral hygiene. The appearance of a blue line on the gums and a marked fetor oris is a sign to decrease the dosage and to pay special attention to oral hygiene. If these early signs are overlooked or not treated by bland mouth washes, gastrointestinal elimination, increase of fluid intake, and a non-irritating diet, an ulcerative stomatitis may result. This calls for cessation of treatment and

the administration of sodium thiosulphate intravenously, in doses from 0.2 to 1 Gm.

2. Dermatoses. Various bismuth eruptions are encountered. The most common bismuth dermatitis is the dry folliculo-papular circumscribed eruption, that may be located anywhere, but most commonly on the extensor surfaces. These eruptions may or may not be pruritic. Next in frequency is a dermatosis that closely resembles pityriasis rosea. It is not preceded by a herald patch, and is limited as a rule to the neck, chest, and abdomen.

Other dermatoses produced by bismuth may be urticarial, eczematoid, or bullous. Among the rare occurrences may be mentioned: herpes zoster, purpura hemorrhagica, erythema multiforme, erythema nodosum, menstrual disturbances, and asthenia. In spite of the best technique sterile abscesses occasionally occur with the oil suspensions, and painful nodes with the water soluble salts. Their treatment is purely symptomatic. In the presence of such complications as herpes zoster, erythema multiforme, and purpura it is best to discontinue temporarily the administration of bismuth and to use sodium thiosulphate intravenously.

3. Precaution. Examine frequently the urine of patients under treatment. Casts, albumin, or other signs of impaired renal function constitute a contraindication to the use of bismuth. In their presence injections of bismuth must be stopped.

#### SUMMARY

1. The advantage and disadvantages of the various bismuth preparations are outlined.

2. It is suggested to use a soluble bismuth preparation in early syphilis and insoluble bismuth suspension in latent syphilis.

3. Bismuth is not to displace the arsphenamines or mercury in the treatment of syphilis, but is to be used as an adjunct to them.

4. Bismuth should never be used intravenously.

5. A proper technique is described.

6. The most common complications are mentioned.

185 N. Wabash Ave.

#### BIBLIOGRAPHY

- Schamberg, J. F., Wright, C. S.: *Treatment of Syphilis*, D. Appleton & Co., N. Y., 1932.  
 Beckman, Harry: *Bismuth in the Treatment of Syphilis*, J. of Lab. and Cl. Med. 18: 1136-1143, 1933.

Wright, C. S.: Bismuth in the Treatment of Congenital Syphilis, *J. A. M. A.*, 89: 424, 1927.

Hanzlik, P. J. et al.: Iodo-Bismuth, a Soluble Bismuth Product for Use in the Treatment of Syphilis; a Preliminary Report, *J. A. M. A.*, 98: 537, 1932.

Irgang, S. et al.: Bismuth Compounds in the Treatment of Active Syphilis, *Arch. of Derm. and Syph.*, 29: 320-352, 1933.

Curtis, S. H.: Sudden Death Following the Intravenous Injection of Bismuth Tartarate, *J. A. M. A.*, 95: 1588, 1930.

Zakon, S. J.: Bismuth Salicylate in the Prophylaxis of Prenatal Syphilis, *Urol. and Cut. Rev.* 38: 250-252, 1934.

## REPORT OF TEN CASES OF ABDOMINAL PREGNANCY

EDWARD L. CORNELL, M. D., F. A. C. S., AND  
A. F. LASH, M. D., PH. D., F. A. C. S.

CHICAGO

Abdominal pregnancy is not so rare as the textbooks on obstetrics would lead us to believe. We became interested because we were fortunate enough to see a larger number of cases than other contributors to the literature. Halstead reported five cases, the largest number we have been able to locate in our review of the literature from 1920 to 1932.

Charles McKnight was the first American to do a laparotomy for abdominal pregnancy. He was also the first to leave the placenta in situ. Although the abdomen was not sutured, the patient recovered. He operated some time between 1789 and 1791. John Bard removed a nine-months' fetus through the abdomen fifty years before McDowell did his ovarotomy. John King, in 1816, operated on a patient with abdominal pregnancy per vaginam. He opened the vaginal wall and delivered the child by applying forceps. He did not state specifically how he handled the placenta, but one must conclude that he removed it. He did not close the vagina, but kept the patient in bed with feet elevated for two weeks. At the end of four weeks no evidence of the vaginal incision was found and the uterus was normal. Both mother and baby recovered.

There is some confusion in the literature to whom to give credit for the first case of abdominal pregnancy treated surgically. Kuznetsov, for instance, says that Muller, in 1809, described the first case of full-term abdominal pregnancy treated surgically. So far as we can determine, the credit goes to McKnight.

The etiology of abdominal pregnancy is clear. The three main causes are: tubal pregnancy, primary abdominal pregnancy and ovarian pregnancy, the first being by far the most frequent. The tubal pregnancy ruptures or aborts and the

ovum becomes embedded secondarily in the abdominal cavity. It may attach itself to some abdominal viscus, or the placenta may remain attached to the tube and its adjacent structures while the fetus is in the abdominal cavity.

The next common factor is classed under trauma to the uterus. Rupture of the scar in cesarean section is first under this heading. This usually follows the classic type. We have not seen a report in which abdominal pregnancy resulted from the rupture of the scar in the low cervical cesarean section. Traumatic rupture of the uterus was reported by Bishkow in 1896, while rupture of the horn of a deformed uterus has been reported several times.

The symptoms of abdominal pregnancy are not sharply marked. Some patients present the text-book picture of a ruptured ectopic pregnancy; others complain only of slight abdominal discomfort. The usual patient suffering from early abdominal pregnancy describes her symptoms as follows: She has missed one or two periods, and then noticed more or less vaginal bleeding, usually not profuse. At the time, or shortly before the appearance of the vaginal bleeding, she noticed some discomfort in the abdomen, more frequently located on the right side near Poupert's ligament. In the typical case, the patient is required to lie down because of the sharpness and severity of the pain. Syncope may or may not be present, or only dizziness may be noted. If the symptoms are not pronounced, no further attention to the attack may be paid by the patient.

If the symptoms are pronounced, the physician may be called, the rupture of an ectopic pregnancy recognized and operation advised, which the patient may refuse. The history in these cases is that either the attack is renewed more intensely, necessitating operation early in order to save life, or the patient recovers from the attack and proceeds with the pregnancy.

If the patient succeeds in avoiding operation past the fourth month, the pregnancy may continue more or less symptomless until term. However, the symptoms are usually rather characteristic. From about the fifth month on, the patient notices that the abdomen is very tender and that the movements of the child cause considerable pain. The pain is more pronounced if the placenta is located on or near a vital or-



gan, such as the liver and the small intestines. If it is attached to the uterus or its appendages, the pain seems to be less severe.

Intestinal disturbances are very frequent. Nausea and vomiting may be present throughout the last half of pregnancy. Vomiting of blood and the passage of blood per rectum are seen occasionally. This seems to occur when the placenta is attached to the intestines. One of us (E. L. C.) feels that this is due to an erosion of the intestinal wall by the chorionic villi. In Case 2647 here reported, no other cause for the profuse bleeding was located.

In some patients the abdominal pain is so severe and debilitating that they are required to remain in bed more or less throughout the pregnancy. This is in sharp contrast to normal pregnancy, yet many physicians overlook this unusual situation. A woman, who remains in bed voluntarily during pregnancy because of pain, should be thoroughly investigated, with the idea in mind that the pregnancy may be abdominal.

Unusual distension of the abdomen and difficulty in evacuating the bowels are often noted. On palpating, it is surprising how frequently the patients complain of abdominal tenderness. At times they can hardly bear the pressure of their clothing.

Ten cases were seen by us, two in private practice and eight at the Cook County Hospital. Each of the latter group was examined by one or both of us, although not necessarily operated on by us.

If abdominal pregnancy is diagnosed in the latter half of pregnancy, shall we advise the patient to await term before operating? One of us (E. L. C.) was originally inclined to so advise, but since observing the ten new cases reported and reviewing the literature, he has come to the conclusion that it is safer for the mother to advise early operation. His opinion is based on the fact that many of these fetuses die early, the sac not infrequently becomes infected, the placenta may be prematurely separated from its aberrant attachment and the possibility that the fetus may be deformed or die suddenly late in pregnancy. The authors, therefore, agree with Berkley, Andrews and Fairborn who state: "Increased experience has proved conclusively that the extra risk of the occurrence of infection entailed by waiting more than counterbalances the

possible advantages." Before deciding definitely to advise a patient to await term, take time to study all the factors in a given case.

The treatment of abdominal pregnancy has for its aims the proper preparation of the patient for operation and for the proper management of the extrauterine placenta and sac.

The preparation of the patient includes typing for blood transfusion for use before or after operation, fluids, rest, overcoming distension when present, and the choice of anesthesia. As careful exploration is usually necessary and the operation may be prolonged, ethylene, ether or spinal anesthesia is desirable.

After obtaining proper exposure, the most careful exploration is essential to determine the site of implantation of the placenta and the abnormal anatomical relations of the gestation sac which vary in different individuals. This information and the condition of the patient are the determining factors for the management of the placenta. Thus Beck's statistics show that in 159 cases, from which the placenta was removed, the mortality was 21.3 per cent. as compared to 98 cases, in which the placenta was left, the mortality was 56.7 per cent. His data include cases from 1809 to 1919 and, therefore, factors such as sepsis, operative technic and anesthesia must be considered in the early cases. The mortality for the entire series of 262 cases was 35.8 per cent.

If the sac has not ruptured, it should be opened in an avascular area and the child removed. A general rule, which may be followed, is that if the placenta is implanted on the pelvic structures, except the pelvic vessels, removal is possible, especially if it is on a pedicle. If it is situated on the abdominal structures, such as the bowels, mesentery or liver, marsupialization and packing are safer. The important detail in the removal of the placenta *in toto* is a complete ligation of all of the vessels leading to the placental site. Of course, ovarian or tubal pedicles are very readily managed. Interrupted sutures only should be used as the tissues are friable. Do not tie too tightly.

Case 2647 (E. L. C.) Mrs. K., white, aged 26 years, Grav. 1. She menstruated last on June 12, 1929. July 25 she had a curettement for criminal abortion. Following this she bled for three days. Shortly afterward she began vomiting. Aug. 31 she was suddenly seized with a terrific pain in the lower back and through the

abdomen. The pain lasted from 1 to 5 p. m. when the second curettement was made. The pains ceased thereafter, but the vomiting continued. She flowed for three days and then recovered sufficiently to be up and around, even going swimming several times.

The last week in September she was suddenly seized with a violent pain in the lower abdomen, accompanied by a great deal of gas. She fainted, stiffened out similar to a convulsion and her lips became blue. Another doctor was called who did not make a definite diagnosis. Following this attack she had pain around the ribs and heart, making it necessary for her to sleep in an upright position. At times the pain was noticed in the shoulders and neck. She recovered sufficiently to see the doctor at his office on Oct. 16.

At this time a lump appeared in the lower right side of the abdomen and the doctor diagnosed a pregnancy of about four months. He recognized that the pregnancy was abnormal and called consultation. The consultant saw the patient Oct. 23 and diagnosed no pregnancy, but a large fibroid tumor. An x-ray picture was made at this time which showed evidence of a baby. Life was felt Nov. 9. She then consulted another group of physicians who stated that she was pregnant and did not have fibroids.

Nov. 22 another attack of severe pain was experienced. It was located in the groin and was followed by vomiting. The vomitus shortly contained blood. For the next three days she vomited blood on an average of every hour. A stomach specialist was called in, who injected some serum to stop the bleeding. On a restricted diet the vomiting was relieved temporarily.

Nov. 26 she was taken violently ill. Another physician was seen, who made a diagnosis of abdominal pregnancy or ruptured uterus. He stated that she was not a good operative risk at the time and that her condition should be built up before attempting surgical interference. She gradually improved, the vomiting ceased except for occasional attacks. X-ray pictures showed a fetus in the transverse position and high in the abdomen.

The patient steadily lost weight, the appetite was poor and she was bothered continuously with heart-burn.

The patient was seen on Dec. 29. Abdominal examination showed the baby to be in a transverse presentation, with the head on the right side, the back upward and one of the arms placed in a peculiar position as if it was held by some obstruction. All the parts were readily palpable, the heart tones easily audible. On vaginal examination the cervix was short and small, somewhat softened. It was found close to the pubis. The body of the uterus was palpable to the left, straightened backward and not easily outlined. It was the size of a six weeks' pregnancy. Nothing was found in the culdesac or fornices. The patient entered the hospital January 22 and was operated on January 29, 1930.

An incision was made from the pubis to 5 cm. above the umbilicus in the mid-line. The fetal sac was discovered directly beneath the peritoneum. On spreading open the incision the omentum, a portion of the placenta, and two loops of small bowel were exposed. The sac and placenta were intimately adherent to the parietal

peritoneum, omentum, loops of the large and small bowel and the fundus of the uterus. Large veins showed themselves in the fetal sac at various points.

The membranes were ruptured in an avascular area and the baby delivered by breech extraction, and the cord clamped. The extraction caused the sac to tear through several of the large veins in its walls. The bleeding from these was profuse, but was controlled by the use of intestinal clamps and ligatures. The relationship of the secundines to the abdominal viscera was carefully explored. The uterus was normal in position and about the ten-weeks' pregnancy size. An orange-sized hematoma (lower half firm, upper half fluctuant) was seen adherent to and lying on the fundus of the uterus. The placenta was adherent to the intestines, both large and small. On the left two loops of small intestine were found to be fixed in the mass. The many adhesions and large vessels prevented the exploration of the pelvis and colon. The sac was adherent to the small intestines, transverse colon, and inferior surface of the liver. There was a small fibroid 4x2 cm. in the left broad ligament and attached to the uterus. Because of intimate and numerous invasions of the placenta, it was deemed advisable not to attempt to remove the sac or placenta.

The ovular sac was attached to the parietal peritoneum with a few interrupted sutures, following which the abdomen was closed in the usual manner with no drainage.

The baby was alive and in good condition. It weighed 1940 gm. It was fed mother's milk and on the 15th day weighed 2030 gms. There were no deformities. The baby seen, one year later, was normal in every respect, both mentally and physically.

The mother's recovery was uneventful except for some abdominal distension, temperature 101 for a half day and 100 for three days. She left the hospital on the 15th day in good condition. She was seen on March 4, 1930, when the mass in the abdomen was found to be the size of a six-months' pregnancy. It was not tender. She had had a period which was accompanied by severe pain the first day.

On May 6, 1930, she complained of some pain in the abdomen and fever. On vaginal examination the cervix was closed, the body of the uterus was pushed to the left and a cystic mass was found occupying the right fornix. The vagina showed bluish discoloration. The mass fluctuated. On abdominal examination the mass was pear-shaped, being 22 cm. above the symphysis, 18 cm. wide at the top and 12 cm. at the bottom. It was decided to tap the cyst, which was done May 9, 1930. Eight to ten ounces of a serosanguinous thick fluid was obtained. It was impossible to drain any more than this amount, even with a vacuum pump. On May 13 an incision was made 10 cm. long in the old scar. On opening the peritoneum the thick fluid escaped under pressure. It had a foul odor. Several small pieces of degenerated placenta came away. On exploration the placenta was found to be still attached to its previous anchorings. The exploration was carried on inside the sac wall. The sac was adherent to the abdominal wall, so that all that was necessary was to insert cigaret



drains to its lowest portion. The abdomen was closed around the drains.

The patient had a bloody discharge for the first week. She ran a temperature of 101 for two days, the discharge gradually ceased and finally disappeared June 20. At no time was there a discharge of a large quantity of placental tissue. The patient felt well and recovered her usual weight in July.

Dec. 12, 1930, vaginal examination was made. The uterus was slightly retroverted, freely movable and the cervix normal. The fibroid had decreased in size. The right ovary was palpable and there was very little evidence of the mass noted in May.

Case 2250, (E. L. C.). Mrs. A., aged 24 years, married 6 months. Last menstrual period Aug. 28, 1926. Admitted to the hospital Dec. 6, 1926, and operated on the same day. Oct. 9 she had a sudden severe pain in the lower abdomen and was unable to walk. She felt faint. The pain gradually left. Since that time she has had eight to ten similar attacks. Nausea and vomiting had been present most of the time. She had been in bed for the past three weeks under the care of a special nurse and another physician. The only bleeding was a slight spotting on Oct. 9 and 10 until Dec. 4 when it reappeared. There had been a progressive pallor and weakness for the previous two months.

On abdominal examination a tumor was felt to the left of the median line. It was very tender. On vaginal examination the uterus was found to the right of the median line, enlarged to the size of a six weeks' pregnancy. The cervix was soft and closed and practically in the normal position. A soft, fluctuant mass occupied the entire left fornix and the left side of the culdesac. Under gentle manipulation the mass suddenly ruptured and the patient went into shock about five minutes later. She was taken directly to the operating room from the examining room. Shock treatment was instituted and as soon as she had recovered sufficiently the abdomen was opened under general anesthetic of ethylene and ether.

A three-months-old fetus was found free in the abdomen, free liquor amnii was also seen, together with fresh and old blood. The placenta was attached to the base of the bladder, left broad ligament, side of the pelvis and omentum. The left tube showed an old rupture about its center. The left ovary was involved in the adhesions. The placenta was separated from the bladder and broad ligament with a moderate amount of bleeding, which was easily controlled by ligatures and hot packs. The omentum was ligated and a left coöphorectomy and salpingectomy were done. After determining that the bleeding was checked, the abdomen was closed without drainage. The patient made a good recovery and was discharged on the 17th day.

The brief case records of the patients seen at the Cook County Hospital are as follows:

a) C. W., colored, 34 years of age, Para. 5, Gravidia 9, was sent to the hospital as a waiting mother, with a transverse presentation, by a prenatal clinic. During her present pregnancy she had pain around the umbilicus, associated with nausea, vomiting and constipation. There was no history of bleeding. On July 30,

1929, a No. 5 bag (Voorhees) was inserted, which was expelled 9 hours later. A No. 9 bag was then inserted with difficulty and was removed about 11 hours later because of a serious rise in temperature and pulse. As a cervical obstruction was considered present, abdominal delivery was thought advisable. The patient's poor condition was treated and a blood transfusion given. At operation (A. F. L.) a live, full-term baby was found free in the abdomen, covered by omentum. The baby lived for 18 hours and weighed 7¼ pounds. The placenta was found implanted on the left broad ligament. When the corpus was examined, a laceration about 3 to 4 cm. at the corporo-cervical juncture in the anterior wall was found. Therefore, the corpus and left broad ligament with the placenta were removed. The patient died of shock on the table.

✓ H. M., white, 21 years of age, Gravidia 1, came to the hospital January 31, 1930, because of weakness and dizziness which began the preceding evening while attending the theatre. She went to the door to seek air and fainted. After regaining consciousness she experienced cramp-like pains in the lower abdomen which radiated to the shoulders. There had been no vaginal bleeding. She was vague about her last menses. Her blood picture showed 75 per cent hemoglobin, 2,700,000 R. B. C. and 17,000 W. B. C. A diagnosis of ruptured ectopic pregnancy was made. At operation (A. F. L.) an abdominal pregnancy of about 4½ months was found. The placenta was implanted on the posterior surface of the right broad ligament and culdesac. The placenta, sac, right tube and ovary were removed while 300 c.c. of blood and 200 c.c. of normal saline were returned to the peritoneal cavity. The abdomen was closed without drainage. A day later 500 c.c. of whole blood was given the patient intravenously. On the tenth post-operative day the patient began to feel nauseated and vomited. On the thirteenth day Dr. Wm. Cubbins operated for intestinal obstruction. When he opened the abdomen by a right rectus incision, he found a large amount of blood in the culdesac and a fibrinous exudate over the intestines. A loop of ileum was adherent to the right horn of the uterus, with evidence of mechanical obstruction. The bowel was freed and an ileostomy was done. The patient died twenty-four hours later.

c) L. L., colored, 23 years of age, Gravidia 2, was sent into the hospital March 13, 1930, from the prenatal clinic because of the history of crampy pains in the lower abdomen during the third month of pregnancy, associated with vaginal bleeding, suggesting an extra-uterine pregnancy. Her blood picture was normal. At operation (D. S. Hillis) an abdominal pregnancy of 20 to 22 weeks was found, with the placenta attached to the posterior surface of the uterus (size of 6 weeks' pregnancy), right broad ligament and right pelvic wall in the region of the vessels. As bleeding began during the exploration, two gauze packs were inserted. The round ligaments, the left broad ligament and right infundibulopelvic ligament were ligated. The drains were loosened on the seventh post-operative day and one was completely removed on the tenth and the other on the fourteenth. Patient went home on the thirtieth post-operative day, but returned two weeks later to have an

abdominal abscess in the old laparotomy wound opened and drained. After a second stay of forty-five days she went home, apparently well. The baby was dead and macerated.

C A. C., colored, 37 years of age, Para. 2, Gravidia 5, came to the hospital April 4, 1930, because of vomiting, pain in the left lower quadrant, dyspnea and abdominal swelling of four days' duration. She had not menstruated since October, 1929, but spotted throughout November. She was in the hospital in December, 1929, and January, 1930, when bilateral chronic salpingitis was diagnosed. Because of her history that the mass would suddenly increase in size and then subside, the diagnosis of pregnancy and twisted ovarian cyst was made. At operation (Dr. J. E. Fitzgerald) a vascular, cystic mass was found, containing a 24-weeks' child, which was removed. The gestation sac was very easily ligated at its pedicle, which was attached to the left horn of the uterus. The abdomen was closed without drainage. Patient gradually began to show evidence of peritonitis and died on the fifth post-operative day. Autopsy revealed a diffuse fibrino-purulent peritonitis and left suppurative pyelonephritis. The baby died shortly after delivery.

a M. S., white, 38 years of age, Para. 3, Gravidia 4. came to the hospital on May 13, 1930, because of epigastric distress, vomiting and constipation. Her last menstrual period was on December 22, 1929, and she had a serosanguineous flow in January for one week. Throughout her pregnancy she had pain around the umbilicus and was constipated. As she had a distended abdomen and was vomiting, a diagnosis was made of pregnancy and intestinal obstruction. At operation (M. Davison) on May 13, 1930, an abdominal pregnancy of 20-22 weeks was found. Small bowels, omentum and parietal peritoneum were adherent to this mass. The fetus was removed. The placenta and sac coming off of the left side of the uterus was removed partially. The bleeding points were ligated. The abdomen was closed without drainage. The baby died shortly after delivery. On October 11, 1930, a vaginal hysterectomy and perineorrhaphy was done (A. F. L.) because of procidentia and relaxed pelvic floor. At this time the omentum was found adherent to the left horn of the uterus.

S. G., colored, 28 years of age, Para. 1, Gravidia 2, came to the hospital on October 28, 1930, because of pain in the left flank for four days. The pain radiated to the left lower quadrant. She had vomited twice in two days after eating oyster stew. Her last menstrual period began on April 1, 1930, and her pregnancy was uneventful except for epigastric distress and belching. Physical examination revealed an acutely ill, young colored woman with a blood pressure of 150/100 and a pulse of 120. The essential findings were a markedly distended abdomen in which could be palpated a firm mass reaching out of the pelvis to two-fingers' breadth above the umbilicus. The back of the baby could be felt on the right side and a loud funic souffle was heard. No round ligaments could be palpated. Vaginal examination found the cervix soft, pointing down and forward. The corpus could not be defined definitely, but

there was a firm mass in the culdesac associated with the abdominal mass. The diagnosis made was abdominal pregnancy or pregnancy in a uterus with multiple fibroids and premature separation of the placenta. At operation (D. A. Horner) amniotic fluid with meconium was found free in the peritoneal cavity, due to rupture of the amniotic sac and a hand protruded from the amniotic cavity. The baby, weighing 5 pounds, 4½ ounces, was alive and in good condition. The placenta, attached by a broad pedicle to the left broad ligament and left side of the corpus, was removed by clamping and ligating its periphery. The patient made an uneventful recovery.

N. L., colored, 31 years of age, Para. 1, Gravidia 2, came to the hospital January 2, 1931, because of vaginal bleeding for 5½ days and procidentia of the uterus of 3½ months' duration. Although the vaginal bleeding was painless and causeless, the patient did experience some pain in the lower abdomen 24 hours before admission. Examination found a normal temperature and pulse and a blood pressure of 210/110. The abdomen was round, soft and elastic, with no rigidity nor tenderness. A mass arose out of the pelvis to four-fingers' breadth below the xiphoid. A small baby was palpated in a scapula right anterior position. The round ligaments could not be felt. The fetal parts and heart sounds were near to the surface. Vaginal examination found a long, thick, patent, soft cervix and a retroflexed corpus uteri, about the size of a 12 weeks' pregnant uterus. A diagnosis of abdominal pregnancy was made. At operation (A. F. L.), a large vascular sac was found. It was opened in a relatively avascular area and a live (5 pounds, 10 ounces) baby was removed. The placenta was imbedded in the left broad ligament. As there were multiple fibroids in the uterus and the patient was in good condition, a subtotal hysterectomy and resection of the left broad ligament was performed. The mother recovered and left the hospital with the baby.

F. C., white, 23 years of age, Gravidia 2, was in the hospital since March 24, 1931, with a diagnosis of missed abortion. Her last menstrual period occurred in May, 1930, and since then she had some irregular vaginal bleeding. A diagnosis was made of ovarian cyst or extrauterine pregnancy and an x-ray examination advised, which showed a fetus. A sound exploration by the resident obstetrician showed that the sound entered for a distance of about 15 cm., therefore a dead pregnancy was thought to be present. The patient received three courses of quinine and castor oil and was packed twice, with no results. A vaginal hysterotomy was then considered. At operation on April 29, 1931 (A. F. L.), the cervical dilator entered for a distance of 7 to 8 cm. and it was then fully appreciated that an extrauterine pregnancy was present. At laparotomy the gestation sac was found shrunken around a 20-22 weeks' fetus and the placenta imbedded in the markedly distended fimbriated end of the left tube and broad ligament. There was a plastic exudate over the corpus and posterior culdesac. A subtotal hysterectomy and left salpingophorectomy was performed. The patient made an uneventful recovery. The baby was badly macerated. In spots it had evidences of mummification.



## THE DIAGNOSIS OF ABDOMINAL ALLERGY

CHARLES J. DRUECK, M. D.  
CHICAGO

*Differential Diagnosis.* Food allergy frequently is the sole cause of allergic symptoms, but other sources of sensitization, animal and dust, may participate in the production of the allergic disturbances and the problem becomes one of the most complicated in medical practice.

A history of definite food dislikes and especially disagreements should be carefully studied. Patients frequently have distastes for or know that they are upset by certain foods.

The specific tests for the determination of food allergy are of two kinds, dietetic and dermal. The dietetic test, really the only absolute test for gastro-intestinal allergy, has for its object the discovery of certain foods which when taken by the individual will invariably produce the symptoms complained of, and when withheld will result in more or less complete relief, depending on the amount of organic change caused by long continued allergic irritation.

When the individual is hypersensitive to an uncommon food, such as shrimps, the diagnosis of the condition is easy and is often made by the patient himself. The occasional attacks of pain and vomiting last a few hours and he is free of digestive disturbances at other times. When he is sensitive to a common food, such as eggs or milk, however, the diagnosis may be very difficult. Milk and eggs are used so commonly in cooking that an individual who is highly sensitive to either one may be in a reactive state almost constantly, and may have such symptoms as pain after eating, nausea, vomiting, bloating and indigestion almost every day. He may be unable to place the blame on any one particular food. The diagnosis may be doubly difficult because of the fact that the gastro-intestinal mucous membrane, when in a chronically reactive state is often very irritable, with the result that rough or stimulating foods such as coarse vegetables, fruits, nuts, condiments and alcohol irritate the stomach and augment the symptoms. This leads the sufferer to place the blame for his trouble on foods of this variety rather than on the real offenders—milk and eggs. It is in this type of cases that cutaneous tests have their greatest sphere of usefulness.

There are two ways in which effects of diet may be studied. In well nourished patients all food may be withheld for three days, the patient being given only water or a rice and water diet. If due to food allergy and not to rice, the symptoms should disappear or be markedly alleviated, and a carefully written record of the results of adding one or more articles of food to the diet on successive days will disclose the food or foods to which the patient is sensitized.

The other method consists of having the patient keep on a fairly full diet, but to vary the foods taken to as great a degree as possible, especially those taken just preceding an attack of the symptoms suspected of being of allergic origin. A detailed daily record of the diet and symptoms, showing the time and character of the food eaten and the time of onset and duration of symptoms, will in from two to four weeks almost invariably establish the identity of the offending foods.

In the cases where the allergic reaction is continuous or occurs every day, the symptoms being due to some common daily article of diet like milk, egg or wheat, dietetic study is more difficult and dermal tests more helpful.

Certain patients are sensitive to entire groups of foods, such as fruits, cereals, meats or vegetables. In such cases, special diets must be formulated. On the other hand a clinical test should always be made by having them partake of the suspected food while under observation, because patients are often mistaken about their reaction, and eating the suspected food may cause no disturbance whatever.

The general principle in the formulation of these diets is to include one or two starches and meats, from two to four vegetables and fruits, maize oil according to the likelihood of sensitization to any of them, and comparatively large amounts of oil should be taken on salads and of sugars on fruits and in fruit drinks in order to increase the calories. The physician and dietitian can help the patient plan quite satisfactory menus from the foods in these various diets, insisting on the strict exclusion of even the slightest ingredient in the diet which is not in the prescribed list. Every elimination diet must insure a fair intake of protein, vitamins, mineral salts and calories.

## ELIMINATION DIETS FOR THE TREATMENT OF FOOD ALLERGY (ROWE)

	Diet 1	Diet 2	Diet 3	Diet 4	Diet 5
Cereal.....	Rice (natural)	Corn	Rice	Rice	Milk alone for the test period 2-3 quarts a day
Bread .....	None	Corn pone*	Tapioca	Rye	
			None	Rye, rice†	
Meat or fish.....	Lamb	Bacon	Beef	Rye crisp	
		Chicken		Cod, halibut	
Vegetables .....	Lettuce	Squash	Tomatoes	and white fish	
	Spinach	Asparagus	Celery	Lettuce	
	Carrots	Peas	String beans	Carrots	
		Artichokes		Peas	
Fruits and jams and	Lemon	Pineapple	Grapefruit	Beets	
fruit drinks .....	Pears	Apricots	Pears	Pineapple	
	Peaches	Prunes	Peaches	Apricots	
Miscellaneous .....	Sugar	Sugar	Sugar	Pears	
	Olive Oil	Mazola oil	Wesson oil	Sugar	
	Salt	Salt	Salt	Olive oil	
	Olives (unstuffed)		Gelatin	Salt	
	Maple syrup		Maple syrup	Olives (unstuffed)	
	Gelatin				

\*Corn pone is made with corn meal, salt, water and Crisco.

†Rye rice bread:  $\frac{1}{2}$  cup rye flour,  $\frac{3}{4}$  cup rice water, 6 water,  $\frac{1}{2}$  tsp. shortening. This recipe makes eight small muffins more palatable if toasted. Royal Baking powder does not con

tain egg. level tsp. B. P. (Royal), 4 level tsp. sugar,  $\frac{1}{4}$  tsp. salt,  $\frac{3}{4}$  cup

The milk diet may be used if the patient does not give indications of milk sensitization. In such a case if symptoms are relieved with the exclusive use of milk, other foods may be gradually added, the effect of such additions being watched.

Below is given a sample menu devised by Rowe to show how Diet 1 may be appetizingly arranged.

## BREAKFAST

Rice—Boiled, natural, served with peach or pear juice and sugar. Fried in olive oil and served with sugar or maple syrup.

Pears or peaches—Large helping, fresh or canned.

Drinks—Lemonade with plenty of sugar.

## LUNCH AND DINNER

Soup—Lamb broth with rice and carrots.

Salad—Lettuce with pears or peaches with olives and olive oil and lemon. Green or ripe olives, unstuffed.

Meats—Roast lamb with gravy made with rice flour. Broiled lamb chops.

Vegetables—Spinach or carrots. Boiled natural rice.

Dessert—Lemon gelatin, pears or peaches.

Drinks—Lemonade with plenty of sugar.

1. Absolutely no foods other than those specified in each diet can be used. Thus, in Diet 1 rice must not be fried with butter or lard but only with the fat specified, which is olive oil. Absolutely no bread, milk, cream or other non-specified foods can be used.

2. Prescribed fruits can be used in drinks, in salads, for desserts and for jams and sauces.

3. Gravies for meats and sauces for vegetables can be thickened only with flour allowable; i.e., rice in Diet 1, cornstarch in Diet 2, and so on.

4. Olive oil in Diet 1, corn oil in Diet 2 and

cottonseed oil in Diet 3, are indicated according to sensitizations to olive, corn or cottonseed antigens. These may be interchanged if necessary.

5. Calories must be increased by plenty of sugar, oil and starch prescribed. Vitamins must be assured by plenty of vegetables and fruits prescribed.

6. In Diet 2, baked corn pone made with corn meal and water or corn meal mush fried in maize oil or bacon fat eaten with prune or apricot juice or plain sugar syrup would be in order.

7. In Diet 3, tapioca baked with peaches and sugar and flavored with orange or orange peel may be suggested.

8. In Diet 4, if the patient is sensitive to fish but not to eggs, eggs may be substituted.

9. These diets are models on which other diets composed of foods indicated by history of food sensitization and skin tests may be formulated if desired by physicians. Diet 1 has been found especially useful either as it is or with foods substituted for those to which patients were sensitive.

10. The "elimination diet" found to relieve the patient's symptoms can be increased by gradual addition of foods to which the patient is found to be nonsensitive as outlined.

Suspected food allergy should not be ruled out even in the presence of definite pathologic conditions until several diets have been taken without relief, each for a period of from five to seven days. During this trial, patients should be en-



couraged to eat enough to prevent loss of weight, and should adhere strictly to the foods prescribed. The physician should be critical of the effect of each food and substitute similar foods for any causing disturbance. If symptoms are relieved, one or two vegetables and fruits may be added the second week. Meats, vegetables, fruits and starches may be gradually added in the succeeding weeks, any foods which reproduce symptoms being excluded. Wheat, eggs and milk should be added last and their effect carefully scrutinized. The building of a satisfactory diet frequently requires co-operation of the patient and adjustment of the diet by the physician for several weeks.

An insistence on total exclusion of all foods to which the patient is sensitive is absolutely necessary for good results. This is important since severe allergic symptoms may result from minute amounts of food. Mild sensitizations to several foods also undoubtedly occur, the summation of which may produce definite symptoms. It is important to use "elimination diets" which will not produce deficiency diseases and which will have enough vitamins, mineral salts, protein and calories for proper metabolism.

*Dermal Tests.* The skin test is based upon the principle that if the cutaneous cells are receptive to a particular allergen placed in contact with them, a visible reaction will occur. This implies that the subject is hypersensitive.

There is an impression that since a positive skin reaction indicates a condition of hypersensitivity, then the converse is true. The failure to obtain positive skin reactions in cases of suspected allergy, or even of known allergy, has led to much discredit of the skin test as a diagnostic procedure. If one would appreciate that in a given individual certain organs only, as a rule, are receptive to allergens, and that unless the skin be so, no reaction can occur, he would become reconciled to the failures of skin testing.

The skin will react in about fifty per cent. of allergic patients. The age of the individual, the method of acquiring the foreign substance, and the nature of it, all influence the incidence of reaction. Thus children react more surely than adults, inhalants get more reactions in adults than do foods, and pollens are associated more often with skin reactions than other groups of allergens.

Dermal tests are not essential to the diagnosis of food allergy when an individual is sensitive to one unusual article of diet, such as shrimps, and has pain soon after eating of certain foods. In such cases the diagnosis can usually be made without a cutaneous reaction. The great sphere of usefulness for skin tests is in patients who are sensitive to a common article of diet, or who are sensitive to several articles of diet, or of patients who have delayed reactions and experience no discomfort for a number of hours after the ingestion of a food. For the correct and prompt diagnosis of cases of this type cutaneous tests are indispensable.

The dermal tests have the advantage of consuming less time. They depend upon observing the reaction of the skin to various purified proteins. While in very sensitive persons, the mere application of certain proteins to the skin surface may produce a reaction, it is necessary to get more definite information, to introduce the protein through the outer layers of the skin. This has been accomplished in two ways. The first, scratch or scarification method, consists of scratching the skin, then applying the suspected proteids in dry powdered form to the scarified area on the skin and placing on this a small drop of one-tenth normal sodium hydroxide solution, and observing the reaction, the development of an urticarial wheal about the area indicating sensitization.

The intradermal method, which in recent years has entirely supplanted the first, consists of the endermic (intracutaneous) injection, by means of a hypodermic needle, of sterile solutions of purified proteins. In practice a tuberculin syringe armed with a small needle is used, and 0.02 c.c. (0.02 mg. of proteid) is injected intracutaneously. After each injection the syringe is carefully washed in each of three separate vessels containing sterile physiologic sodium chloride solution. If the vessels are numbered 1, 2 and 3 and always used in this rotation several washings may be made in the same solutions with assurance that the third washing will remove every trace of proteid used in the previous test.

In a normal person nothing striking follows an intracutaneous injection of a foreign protein. If an individual is inoculated with a protein to which he is sensitive, however, in a few moments a wheal will usually appear which varies in size

from 0.5 to 2 cm. or more in diameter. The wheal is usually paler than the skin, usually shows pseudopod-like projections, is often surrounded by an irregular erythematous area, and often itches intensely.

The wheal usually appears definitely within a few minutes. It may not reach its maximum size for several hours. If it appears quickly it usually disappears within one to two hours. If it reaches its maximum more slowly it usually lasts longer. In gastro-intestinal analyses the intradermal method frequently gives positive reactions where the scratch method has been negative.

The purified proteins may be very simply prepared in any well equipped laboratory or may now be obtained from a number of reliable pharmaceutical houses. Tests are made with all foods and condiments and in many cases with other antigens. Wheat, eggs, milk, chocolate, tomato, cabbage, orange and potato are found to be the most common foods that produce allergic manifestations. It is known, however, that patients may become sensitized to any food or condiment. As many as two hundred proteins are used by some clinicians in testing for sensitization.

The procedure employed to detect the presence of sensitization is dependent upon a local reaction following the application or injection of foreign substance within the epidermis. In this manner more than 50 per cent. of cases of hypersensitiveness can be detected. However, the mere presence of a local dermal test is not sufficient proof that the symptoms of a case are due to an allergic condition. Cook and Vender Veer found that skin sensitiveness was present in 14.5 per cent. of normal people. The proof of relationship between hypersensitiveness and clinical symptoms must depend in the last analysis, not alone on positive dermal tests but also on the disappearance of the symptoms when the offending material is withdrawn, or if that is impossible, when immunity can be established by methods of desensitization. In addition to the phenomenon of sensitization, mechanical factors must be considered. When a mucous membrane is sensitized it is in an irritable state and besides the allergic factor, coarse substances may cause symptoms from mere mechanical irritation. Thus, without the use of skin tests it would be difficult to say which food played the role of allergen

or which that mechanical irritant. It must be remembered that not all persons with gastro-intestinal sensitization will show an equal degree of skin sensitization, so that mild or even negative skin reactions do not necessarily indicate mild or absent gastro-intestinal sensitization. 1132 East 49th Street.

---

## ILLINOIS PIONEERS OF MEDICINE\*

LUCIUS H. ZEUCH, M. D.

CHICAGO

Much is being said in admiration of the medical structure that we have erected in Illinois but very little about the foundation upon which it rests. The superstructure is plainly visible and is deserving of all the praise it is receiving, for where is there more being added by research concerning the problems of our profession than is being done by the workers of our four great medical schools and the practical application of the findings of these researchers by the rank and file of our order? The foundation is in the ground and is known only to a few excavators of history, who have taken time to dig down into the past. Doctors George H. Weaver, O. B. Will, E. W. Fiegenbaum, C. B. Johnson, Carl Black, Irving S. Cutter, and others have viewed sections of this foundation and have found it rests upon solid rock, capable of holding a structure that may reach unparallelled heights. Now it has been the pleasant task of the Illinois State Medical Society through its history committee to record the knowledge of the background of Illinois medicine, to preserve in permanent form this wondrous story from its inception in obscurity to its present magnificent proportions. It may not be amiss here to recount in retrospect the salient features of its history.

*Deductions Concerning Prehistoric Medicine:* Going down to bed-rock we have no knowledge of the medicine of the prehistoric races who inhabited our land. Unlike the men of pre-history of Asia, Africa and Europe, they left us no hieroglyphics, that might give us an insight into the art of medicine as practiced by their medicine men. But a race having such wonderful engineers who have left us mounds of accurate design and measurements, such as "Freat Serpent

---

\*Published Posthumously. Address at VIII International Congress of Medical Historians at Rome, Italy, September, 1930.



Mound and Conus" of Ohio, "Monk's Mound" of Illinois, and "Man Mound" of Wisconsin, must have had great medical men as well, but intimate knowledge of them is denied us.

Now the question has been asked how the inferior American Indian could have descended from the superior Mound builder and by analogy can we bridge this chasm of relationship? Pestilences have frequently decimated races in the past and we might assume that the prehistoric races of America suffered such a fate. Furthermore, we may assume that only a few children and a civilized adolescence were spared in this epidemic and they carried on without the directing aid of the teachers of the clan. These untaught descendants of a virile race reverted to savagery and became the progenitors of the American Indian of historic times.

*Medicine of the American Indian:* The Indians' practice of medicine was for the believer that the diseased body was infested by malevolent little spirits called manitous. Out of this belief came the operation of suction by mouth of diseased parts to extract the pestiferous invader. But as the onlookers were a little incredulous of the powers of the medicine men to extract irksome manitous in this fashion, the medicine man resorted to sorcery by previously secreting some object, as a pebble or a piece of fibre, in his mouth which he displayed after completing his performance to satisfy the doubting onlookers. However, the Indian was also a staunch believer in the efficacy of herbs in the healing process. He learned empirically that the bark of white spruce was useful in malarial fever, that hemlock spruce relieved him to a certain extent of the ravages of scurvy, arbutus he used for rheumatism, lobelia for coughs and other remedies for common disorders. These drugs found their way into the households of early settlers for everyday use and were later studied by early physicians and used in their practice to combat disease processes.

*Early Surgeons Arrive:* The earliest white practitioners of which we have any knowledge in the Illinois country came with the French explorers or as in the case of the surgeon mentioned in Father Marquette's journal, shortly afterward. Though nothing definite is known about the identity of this individual it is very likely his name was Louis Moreau of Chateau Richer,

Canada. The second of this vanguard of regular practitioners was Jean Michelo who accompanied La Salle on his trip of discovery to the mouth of the Mississippi river. The third, Liotot, played a despicable part in the assassination of La Salle in the wilds of Texas, while that intrepid explorer was attempting to re-find the mouth of the Mississippi river on his final trip to America.

*Priests Act as Medical Advisors:* Following the advent of the first surgeons of the dim past there was a long transitional period in which the priests of the Catholic Faith administered medicines to the natives. They were connected with the dispensary at Quebec from whence they received their medical supplies. They also practiced blood-letting and faith healing and in their writings complained bitterly about the quacks that were hampering them in their work. Now considerable interest is aroused concerning the identity of these interlopers. Who were they? Inquiry in Paris revealed the fact that the proletariat of the "Reign of Terror" destroyed most of the government records, but this statement was made that in the early days there was a governmental sanction given to men having a modicum of knowledge of medicine to go into the out-of-the-way places, where there was a dearth of regular physicians, and it is more than likely that these *Officiers de Santé* found their way to America and practiced among the Indians.

*French Military Period:* We might assume that the regime of the priests as medical advisors terminated with the coming of the militarists to occupy Fort de Chartres in the American Bottom. Two names have come down to us from that period, Dr. De la Ferne who died at the fort and his son-in-law, Dr. Condé, his successor, who died in St. Louis during the British occupation.

*French Period of Colonization:* Several names are found in the records of this period, one of which stands out prominently, that of Dr. Saugrain. This pioneer physician made the barometers and thermometers for the Lewis and Clark expedition. He also made phosphorous matches which the explorers found useful to kindle fires. At night they used them to mystify the natives by striking them upon the moistened palms of their hands thereby causing phosphorescence,

which struck terror into the hearts of the aborigines.

*British Regime:* Though this period was short in the Illinois country several names appear in the reports of the military. One stands out prominently, not because of his medical attainments, but because of his association with the intrigues incident to dispossessing of the Indians of their lands. Dr. John Connely, a native of Pennsylvania, a nephew of Col. Croghan, was Lord Dunmore's confidential agent in 1774 and was accused of inciting the wars with the Indians of that year. During the Revolutionary War he gave valuable assistance to the British. "A stormy petrel" was this medical man who for thirty years was interested in acquiring lands in the northwest frontier.

*The American Invasion:* Following the Revolutionary War Americans began to arrive in the American Bottom to take advantage of the opportunities that resulted from General George Rogers Clark's victories, adding as they did the vast Illinois agricultural empire to the original thirteen colonies. Among the settlers of this period Dr. Farrar's name stands out as an obstetrician of more than average ability, who had a colorful career including participation in the old-fashioned sport of dueling; likewise Dr. John Todd, an uncle of Mrs. Mary Todd Lincoln, a great organizer of physicians; Dr. George Fisher who wrote the first medical practice act of the territory, and Dr. George Cadwell who served in the General Assembly, when these early attempts to regulate the practice of medicine were promulgated.

*Medical Educators Arrive:* The greatest impetus in developing our present medical structure was the great migration that entered the northern gateway of our State following the Black Hawk War. Recalling the incident of the parading through the Forts of Chief Black Hawk in 1833, after his conviction at Fort Jefferson, the possibility of acquiring rich agricultural lands for a song, was emphasized and subsequently a stream of settlers flowed into the Northern section of this great commonwealth. Among these homeseekers were the teachers, Daniel Brainard, Elias Cooper, David Prince, George Richards. Nathan S. Davis, and others who inaugurated medical teaching in Illinois.

*Public Welfare Movements Interest Physi-*

*cians:* In the movements, abolition of slavery and temperance, that were agitating the nation from pioneer to ante-bellum days, the physicians were actively engaged. Dr. Silas Hamilton liberated twenty-eight slaves twenty-eight years before the "Emancipation Proclamation" was enunciated. Dr. V. Dyer, Eels, Willard, Pearson, Wheler, and Kendall were agents in the "Underground Railroad" designed to aid runaway slaves to reach Chicago from St. Louis for passage upon Lake steamers bound for Canada. Drs. E. James the physician of the Major Long Rocky Mountain expedition to the West, and N. S. Davis were staunch advocates of abstinence and edited temperance journals.

*Scientists Attracted to Illinois:* Those having a scientific bent among the physicians found Illinois an inviting field to prosecute studies in their avocations. Dr. Le Baron came to study the insect life in the wilderness and became the state's first entomologist, rendering the commonwealth great service in combating plant pestilences. Dr. E. N. Roe located in Shawneetown primarily to make a living in the practice and secondary to study the rich geologic formations in southern Illinois. Subsequently he scored in the literature of the times as did also Dr. Benjamin Allen of Joliet. Dr. James Van Zandt Blaney studied the geologic formations of the Lake Superior region and made valuable observations relative to the copper deposits in the Gobegies. Dr. Wm. Emerson of Alton located near the American Bottom to study in his spare time the remains of marine life in which the area abounds, subsequently becoming the state's first conchologist. A fine collection of prehistoric sea shells, the result of this perseverance in this field of study, remain in the Monticello Seminary as a monument to his zeal in this direction. And lastly, one of our number, Dr. George Bissel studied pioneer political organization and when the Republican party was born in Illinois he became the logical candidate of the party he helped to form, for the governorship, winning in the election following by a large majority. Many other names appear large in the superstructure that has been added since pioneer days; Senn. Fenger, Murphy and a host of moderns who have built upon the foundation of the past, but their names and deeds will be recorded by another age of historians who can better judge in retrospect



the place they should have in the firmament of stars, who have drawn medicine out of the realm of conjecture into the definite sphere of science.

#### CLINICAL CONTROL OF CHRONIC HEMORRHAGIC STATES IN CHILDHOOD

In his article (*Journal A. M. A.*, Jan. 20 and 27, 1934), I. Newton Kugelmass, New York, states that hemorrhagic states are unitary and unique. Their manifestations are as individual as the particular parent, as varied as the determining disease, and as widespread as are the offended organs and tissues. And yet they show few symptoms and fewer signs to be ever adequate for diagnostic differentiation without further scientific study. The author discusses the essential diagnostic procedures for hemorrhagic disturbances, a new classification of hemorrhagic states, dietary control of chronic hypotherbinemia, treatment of types of thrombocytopenic purpura, evaluating symptomatic thrombocytopenic purpura, vascular hemorrhagic diseases, and under hereditary hemorrhagic diseases he discusses hereditary hemophilia, familial thrombocytopenic purpura, hereditary thromboasthenic purpura, hereditary hemorrhagic telangiectasis and transitional hereditary hemorrhagic diseases.

#### HODGKIN'S DISEASE OCCURRING SIMULTANEOUSLY IN TWO BROTHERS

G. J. McHefey and R. F. Peterson, Butte, Mont. (*Journal A. M. A.*, Feb. 17, 1934), present two cases of Hodgkin's disease in brothers, aged 11 and 13 years, respectively, that occurred simultaneously. The onset was a week apart and death occurred about two years later, two months apart. These cases demonstrate the value of an early biopsy, since tuberculosis was the clinical diagnosis. There is no evidence of Hodgkin's disease in any of the family history. The authors' conception of Hodgkin's disease is that of a neoplasm rather than that of an infectious granuloma. The simultaneous occurrence of this condition in two brothers does not shake their belief, because these two cases make a total of only twelve cases in five families which they could find reported.

#### ULTIMATE CONSUMER

Bunged-up Client—"I want to sue Jones for running me down with his auto, but I'm afraid he has no money."

Lawyer—"Oh, that's all right. I can use his car."—*Detroit Free Press.*

### Society Proceedings

#### COOK COUNTY

##### CHICAGO MEDICAL SOCIETY

*Regular meeting, Wednesday, April 18, 1934.*

##### CARCINOMA OF THE LARYNX

Introductory Remarks—Bowman C. Crowell, Director of Clinical Research, American College of Surgeons.  
Irradiation:

(a) X-ray—James T. Case, Prof. Radiology, Northwestern University School of Medicine.

(b) Radium—Max Cutler, Director Tumor Clinic, Michael Reese Hospital.

Laryngo-Fissure—Samuel Salinger, Clin. Prof. Otolaryngology, Loyola University Medical School.

Laryngectomy (moving picture demonstration)—Fielding O. Lewis, Prof. Laryngology, Jefferson Medical School.

Discussion—Robert Sonnenschein, Asst. Prof. Otolaryngology, Rush Medical College.

#### GREENE COUNTY

The regular meeting of Greene County Medical Society was held in Carrollton, March 9, 1934.

Various business matters and communications were disposed of. The indigent committee reported relative to fees and rules for practice under State and Federal Relief Commissions, which Commissions are as yet not functioning along medical lines.

Dr. C. R. Thomas of Roodhouse was placed on the list of honorary members. Flowers were sent to Dr. Harvey W. Garrison of Hillview, who has been seriously ill for several months.

Dr. Kinsella, Dean of the St. Louis University Medical College, gave us a highly instructive paper on "Gallbladder Disease" from the standpoint of the clinician which was followed by an equally instructive paper on "Gallbladder from the Surgeon's Viewpoint," by Dr. Chas. H. Sherwin, Assistant Professor of Surgery of the same school. These papers were made very practical and were much enjoyed by the entire membership.

Only three of our members failed to attend this meeting and two of the three were sick.

WM. H. GARRISON, Secretary.

#### MADISON COUNTY

Dr. Lee Pettit Gay, Associate Professor of Internal Medicine, Washington University, St. Louis, spoke to the Madison County Medical Society on the subject of "Allergy" April 6, 1934.

The meeting was held at the High School Gymnasium at Madison. Much time was spent in ironing out moot points in the administration of emergency relief in Madison County. The Society is following the Illinois Plan and has a very active Advisory Committee. The County Director, Mr. R. L. Cushing, answered numerous questions with reference to the administration of emergency relief.

Resolutions of sympathy were endorsed re: the death of President-elect Dr. C. D. Center.

The next meeting of the Society will be held at Troy.

Sincerely,

D. D. MONROE, Secretary.

### Marriages

Harry Greenstein to Miss Ethel Rose Simon, both of Chicago, February 1.

Felix Walter Sokolowski to Miss Georgia Hale, both of Alton, Ill., at Carlinville, January 14.

## Personals

Dr. Henry E. Irish was invited to address Will-Grundy County Medical Society on April 8.

Dr. Charles W. Galloway gave an illustrated lecture on an obstetrical subject at the Paris Hospital, March 12.

Dr. L. J. Halpern addressed the Parent-Teacher group April 11, at the Volta School. His subject was "The Pre-School Child."

Dr. Edwin H. Hirsch, Chicago, addressed the Will-Grundy County Medical Society at Joliet, March 28, on "Treatment of Gonorrhea."

Dr. Meyer Solomon addressed Will-Grundy County Medical Society on April 11, subject, "Nervous Breakdowns."

Dr. Philip Rosenblum addressed Iroquois County Medical Society on April 12, subject, "Convulsions in Children."

Dr. J. P. Simonds addressed the members of Fulton County Medical Society at Canton on April 18, subject, "Nephritis."

Dr. Geza deTakats addressed the Aurora Medical Society, April 5, on "Diagnosis and Management of Peripheral Vascular Disease."

Dr. H. L. Kretschmer presented a paper on April 10 before the Northern Tri-State Medical Association at Flint, Michigan. He talked on the prostatic problem.

Drs. Philip H. Kreuscher and Ernest E. Irons presented the scientific program at the Annual Meeting of Bureau County Medical Society at Princeton, April 10.

Dr. Irving F. Stein addressed the Kane County Medical Society at St. Charles Hospital, Aurora, on Wednesday, April 11, the subject being "The Use of Obstetric Forceps."

At the meeting of the Biological Photographic Association, April 24, Dr. Max Thorek among others, discussed "Photography in Medicine and Surgery."

Dr. Philip H. Kreuscher conducted a clinic for crippled children at Sterling, March 29, under the auspices of the Sterling Gyro Club and White-side County Medical Society.

Dr. Rollin T. Woodyatt, Chicago, discussed "Water Metabolism and Maintaining the Water Balance" before the Springfield Medical Club, March 20.

Dr. Jack D. Kirshbaum, among others, spoke before the Chicago Pathological Society, April 9, on "Intestinal Obstruction by Sequestered Lipoma of the Jejunum."

Among the speakers before the Chicago Laryngological and Otological Society, April 9, was Dr. John A. Cavanaugh on "Mucocoele of the Frontal Sinus."

Drs. Julius H. Hess and Otto Saphir among others, addressed the Chicago Pediatric Society, April 17, on "Celiac Disease—A Series of Pathologic Studies."

Dr. Max Thorek addressed the Columbia Presbyterian Medical Center of the College of Physicians and Surgeons, New York City, on April 7, on "A New Method of Obliterating the Gall Bladder by Electro-Surgical Means."

Speakers before the Chicago Ophthalmological Society, April 16, include Drs. Isidore Finkelman and Samuel Wick, Elgin, Ill., on "Pressure on the Optic Nerve by a Carcinoma of the Maxillary Sinus Extending into the Cranial Cavity."

Carl R. Moore, Ph.D., and Dr. William Harcourt Browne addressed the Chicago Gynecological Society, April 20, on "Hormones in Relation to Reproduction" and "Use of Follutein in Dysmenorrhea," respectively.

The Chicago Society of Allergy was addressed April 16, by Drs. Eugene F. Traut on "Reactions of Nonarthritic and Arthritic Persons to Bacterial Filtrates" and Theodore Cornbleet and Morris A. Kaplan on "Proteose Studies in Eczema."

A symposium on acute intestinal obstruction constituted the meeting of the Adams County Medical Society in Quincy, April 9, with Drs. James F. Merritt, Frank Cohen, Ralph McReynolds and Earl L. Caddick as speakers.

At a joint meeting of the Institute of Traumatic Surgery and the Chicago Orthopedic Club, April 13, Drs. Dallas B. Phemister and Fremont A. Chandler spoke on "Primary Shock Produced by Wounds and Operations" and "Problems in the Pathology of the Hip Joint in Children."

Drs. Harry L. Parker, Rochester, Minn., and Arno B. Luckhardt, among others, addressed the



Chicago Neurological Society, April 19, on "Traumatic Encephalopathy in Professional Pugilists" and "Physiology and Pathological Physiology of the Pituitary Gland and Adjacent Structures," respectively.

### News Notes

—The Scientific Session of the American Heart Association will be held on Tuesday, June 12, 1934, from 9:30 to 5:30 p. m. at the Cleveland Hotel, Cleveland, Ohio. The program will be devoted to arteriosclerotic heart disease.

—At a dinner meeting of the Christian County Medical Society, at the Taylorville Country Club on April 18, Dr. George Thomas Palmer and Dr. George H. Vernon, of Springfield, spoke on "Blood Sedimentation and Its Use by the General Practitioner."

—At a meeting of the Chicago Roentgen Society, April 12, papers were presented by Drs. Byrl R. Kirklin, Rochester, Minn., and Sidney A. Portis, on "Differential Diagnosis Between Benign and Malignant Ulcerating Lesions of the Stomach" and "Medical Aspects of Benign and Malignant Lesions of the Stomach," respectively.

—Dr. Dallas B. Phemister discussed "The Recovery of the Ancient Medical Manuscripts During the Late Middle Ages," before the Society of Medical History of Chicago, April 25; Dr. Clarence A. Earle presented "A Sketch of the Life of Dr. John A. Kennicott," and Dr. James E. Lebensohn, "1934—The Semicentenary of Local Anesthesia."

—The Chicago Urological Society was addressed, April 26, by Drs. Herman L. Kretschmer on "Resection of the Kidney"; Frederick Lieberthal, "Perirenal and Peripelvic Fibrolipomatosis and Its Relation to Replacement Lipomatosis," and Aloysius J. Wochinski, "An Evaluation of Serial Pyelography."

—Speakers before the Chicago Society of Internal Medicine, April 23, were Drs. Robert W. Keeton, on "Effects of Diets Low in Calories Containing Varying Amounts of Protein on the Weight Loss and Metabolic Rate of Obese Patients"; William F. Petersen, "Clinical Significance of Pressor Episodes," and Alexander J. Nedzel, "Experimental Production of Vegetative and Ulcerative Endocarditis."

—A gift of \$600 was recently given to the University of Chicago by Mr. and Mrs. Robert V. Merrill to establish a memorial in honor of their son. According to the conditions, \$400 of the original \$600 shall be invested by the university, the income to be expended in behalf of children who are patients of the Bobs Roberts Hospital or clinic, as gifts or loans, without interest, to their parents or guardians when they are unable to provide supplementary care.

—The exploitation of drugs, preparations and so-called cures over the radio is viewed with disfavor by the Chicago Medical Society, according to a resolution unanimously adopted by the council, April 10. The symptoms and conditions for which these preparations are recommended frequently are indications of serious conditions calling for careful study by a qualified physician. It was further resolved that physicians request their patients to cooperate in sending protests to the Federal Radio Commission and to broadcasting stations against misleading and unwarranted radio medical advertising.

—Funds are being solicited to establish a memorial in honor of the late Dr. Charles Spencer Williamson, professor of medicine at the University of Illinois College of Medicine. It is hoped to accumulate a fund of \$500 for a suitable portrait of Dr. Williamson, to be hung in the library of the university, and a sum between \$5,000 and \$10,000 to establish a lectureship in internal medicine. The dean of the medical school has approved the plan, and the committee, composed of Drs. Carroll C. L. Birch, Ernest S. Moore and Adolph Hartung, chairman, urges former patients, students and colleagues of Dr. Williamson to contribute. Dr. Williamson, who was associated with the medical school for thirty-one years, died Feb. 15, 1933.

—The twenty-fifth annual meeting of the Illinois Tuberculosis Association will be held at the Hotel Emmerson, Mount Vernon, April 30-May 1. The tentative program is as follows:

Dr. Carl A. Hedblom, Chicago, Thoracic Surgery, with Special Reference to Thoracoplasty.

Dr. Henry C. Sweany, Chicago, Pathological Aspects of Tuberculosis.

Dr. David O. N. Lindberg, Decatur, Use of Tuberculin and X-Rays in Diagnosis of Early Tuberculosis.

Dr. Robinson Bosworth, Rockford, Home Treatment of Tuberculosis.

Dr. Maxim Pollak, Peoria, Recent Developments in the Use of Artificial Pneumothorax.

## Deaths

WILLIAM TAYLOR McELROY, Beardstown, Ill.; St. Louis Medical College, 1872; aged 79; died, March 24.

ANDREW HARRISON WEBER, Chicago; Drake University Medical Department, 1895; aged 67; died, February 17, of organic heart disease.

HENRY ROSENBLITH, Chicago; Illinois Medical College, Chicago, 1900; aged 63; died, February 14, of coronary thrombosis.

WILLIAM ARNOLD CHRISTIAN, Chicago; Cincinnati College of Medicine and Surgery, 1889; a Fellow, A. M. A.; aged 62; died, February 4, of brain tumor.

CYRUS HENRY CUTTER, Aurora, Ill.; Rush Medical College, 1881; aged 76; died, March 4, of coronary sclerosis.

M. D. EMERSON, Galatia, Ill.; Missouri Medical College, St. Louis; 1882; aged 77; died, March 6 of hypostatic pneumonia.

ANNA SOPHIA WINDROW HOLM, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; aged 73; died, March 15, of arteriosclerosis and myocarditis.

CLINTON J. HANCOCK, Greenup, Ill.; Medical College of Ohio, Cincinnati, 1897; member of the Illinois State Medical Society; aged 67; died suddenly, March 17, in a hospital at Effingham, of heart disease.

THOMAS EUGENE KEAVENEY, Keithsburg, Ill.; Creighton University School of Medicine, Omaha, 1926; aged 32; died, March 24, in the Mercy Hospital, Burlington, Iowa, of brain tumor.

CURTIS NELSON, Barrington, Ill.; Rush Medical College, Chicago, 1928; a Fellow, A. M. A.; aged 31; died, March 2, when he fell from a fifth story window of the Presbyterian Hospital, Chicago.

BEN RUSSELL, Sheffield, Ill.; College of Physicians and Surgeons, Baltimore, 1896; a Fellow, A. M. A.; aged 70; died, March 14, of acute dilatation of the heart.

EDWARD SUTHERLAND WINBIGLER, Alexis, Ill.; Rush Medical College, Chicago, 1893; a Fellow, A. M. A.; for many years member of the school board; aged 66; died, February 12, of hepatic cirrhosis.

GEORGE L. MÖRGENTHAU, Chicago; Dartmouth Medical School, Hanover, N. H., 1888; a Fellow, A. M. A.; for many years on the staff of the Michael Reese Hospital; aged 71; died, March 21, of colitis and morphine poisoning.

EDWARD EVAN SARGENT, Le Roy, Ill.; Miami Medical College, Cincinnati, 1893; a Fellow, A. M. A.; for twelve years president of the school board; aged 65; died, February 20, in the Brokaw Hospital, Normal, of agranulocytosis.

WILLIAM HARRISON WEIRICH, Jacksonville, Ill.; Bennett Medical College, Chicago, 1909; member of the Illinois State Medical Society; served during the World War; aged 48; on the staff of Our Savior's Hospital, where he died, March 17, of meningitis, following an operation for mastoiditis.

LUTHER FRANKLIN ROBINSON, Ullin, Ill.; Hospital College of Medicine, Louisville, Ky., 1889; member of the Illinois State Medical Society; past president and secretary of the Pulaski County Medical Society; for fifteen years bank president; formerly mayor; aged 82; died, February 15, of arteriosclerosis and acute nephritis.

VITO WITTING, Urbana, Ill.; Royal University of Florence Faculty of Medicine and Surgery, Florence, Italy, 1926; a Fellow, A. M. A.; in 1928 vice secretary to the Italian Congress of Medical Radiology; aged 30; on the staff of the Carle Memorial Hospital, where he died, February 11, of lymphatic leukemia.

JOHN MARION WOLFE, Jacksonville, Ill.; Barnes Medical College, St. Louis, 1898; member of the Illinois State Medical Society; past president of the board of education; on the staffs of Our Savior's Hospital and the Passavant Memorial Hospital; aged 62; died, February 23, of toxemia and nephritis.

ROBERT C. J. MEYER, Moline, Ill.; Cleveland College of Physicians and Surgeons, Medical Department of the University of Wooster, 1891; Rush Medical College, Chicago, 1892; at one time county coroner, and justice of the peace of Coe Township; formerly secretary of the staff of St. Anthony's Hospital, Rock Island; aged 68; died, March 4, of pyonephrosis.

CHARLES HENDERSON MILLER, Chicago; Northwestern University Medical School, Chicago, 1898; a Fellow, A. M. A.; formerly a pharmacist; at one time assistant professor of pharmacology at his alma mater and professor of pharmacology and therapeutics, Bennett Medical College; aged 66; one of the founders and on the staff of the Woodlawn Hospital, where he died, March 12, of embolism, hypertension and coronary thrombosis.

JACQUES HOLINGER, Chicago; Universität Basel Medizinische Fakultät, Basel, Switzerland, 1892, a Fellow, A. M. A.; member of the American Otological Society; associate professor of laryngology, rhinology and otology, University of Illinois College of Medicine; aged 68; on the staffs of the Alexian Brothers' Hospital, Illinois Masonic Hospital, Grant Hospital and St. Joseph's Hospital, where he died, March 30, of coronary occlusion.

PAUL CHURCHILL HUTTON, Colonel, M. C., U. S. Army, Chicago; Columbian University Medical Department, Washington, D. C., 1897; a Fellow, A. M. A.; veteran of the Spanish-American and World wars; entered the regular army as an assistant surgeon in 1901; in 1906 was promoted to captain in the medical corps and was made a colonel in 1927; fellow of the American College of Surgeons; member of the Colorado State Medical Society; aged 58; died suddenly, January 27, of heart disease.



## A New Standardized Pituitary Product

# PREPHYSIN-CHAPPEL

The gonad stimulating hormones of the anterior lobe of the hypophysis, purified for subcutaneous use. The preparation is standardized by the Department of Zoology, University of Wisconsin, to contain 25 rat units per c.c. as defined by that laboratory.

Prephysin is offered as a sterile solution, in vials of 5 c. c.

Indications: Sexual underdevelopment and disturbances caused by pituitary dysfunction in both sexes, amenorrhea, dysmenorrhea, certain types of sterility and impotence.

To physicians only, a descriptive folder will be sent upon request.

Write to

**LABORATORIES CHAPPEL BROS., Inc.**  
Rockford, Illinois

## Book Reviews

**MYSTERY MAGIC AND MEDICINE.** BY HOWARD W. HAGGARD, M.D. New York. Doubleday, Doran & Company, Inc. 1933. Price \$1.00.

In this work the author portrays the rise of medicine from superstition to science. The author tells with vividness of the fight against diseases through the ages. He describes the dawn of science of medicine and the great development in the last seventy-five years. Little gems of biography will be found scattered through the book, and a full glossary makes words and names clear. Dr. Haggard is the author of *Devils, Drugs, and Doctors*; *The Lame, the Halt and the Blind*; *The Science of Health and Disease*.

**MENTAL HYGIENE IN THE COMMUNITY.** BY CLARA BASSETT. New York. The MacMillan Company. 1934. Price \$3.50.

This work is a comprehensive picture of the relation of Mental Hygiene to some of the urgent problems of community life. It defines Mental Hygiene, tells why it is of great importance and value in any consideration of how to achieve a healthier and happier community life. The work should be of interest to physicians.

**TREATMENT OF THE COMMONER DISEASES MET WITH BY THE GENERAL PRACTITIONER.** BY LEWELLYS F. BARKER, M.D. Philadelphia, London, Montreal. J. B. Lippincott Company. 1934. Price \$3.00.

This volume deals with the management of some of

the internal disorders that are not infrequently met with by the physician who engages in general practice. The book is based upon ten lectures delivered by invitation in the annual course of post graduate lectures in Ohio in 1933.

**MODERN CLINICAL PSYCHIATRY.** BY ARTHUR P. NOYES, M.D. Superintendent of State Hospital for Mental Diseases, Howard, R. I., formerly First Assistant Physician at St. Elizabeths Hospital, Washington, D. C.; formerly Chief Executive Officer at the Boston Psychopathic Hospital. 485 pages. Philadelphia and London. W. B. Saunders Company. 1934. Cloth, \$4.50 net.

In this work the author has taken cognizance so far as they are known of the more important ways in which anatomy, physiology and chemistry may, through their respective pathologies, produce changes in the organism and contribute to disturbance in personality integration and functions.

**TREATMENT IN GENERAL PRACTICE.** By Harry Beckman, M. D., Professor of Pharmacology at Marquette University, School of Medicine, Milwaukee, Wisconsin. Second Edition, Revised and Entirely Reset. 889 pages. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$10.00 net.

This new edition has been entirely rewritten and is thoroughly up-to-date. It contains hundreds of new and approved treatments, many of which are not to be found in any other book.

(Continued on Page 26)

**A Gastro-  
Intestinal  
Antiseptic**

where Hexamethylenamine as an agent for liberating formaldehyde is desired without the highly irritating qualities of free formaldehyde.

*Non-Toxic*

*Non-Alcoholic*

# UROLITHIA

This scientifically compounded formula of Methenamine in combination with Lithium and Sodium Benzoate in a standardized fluid of couch grass (*Triticum*) and corn silk (*Zea*) serves as an agent for liberating formaldehyde and avoids the highly irritating qualities of free formaldehyde.

*AS MUCH AS 20 GRAINS of Hexamethylenamine can be administered four or five times a day to patients without toxic effects through the use of Urolithia.*

**COBBE PHARMACEUTICAL CO.**

221 N. Lincoln Street

Chicago, Ill.

COBBE PHARMACEUTICAL CO.  
221 N. Lincoln St., Chicago, Ill.

Send free Urolithia sample and literature.

Dr. ....

.....

..... 1M-5-34

## PROFESSIONAL PROTECTION

SINCE 1899  
SPECIALIZED  
SERVICE

MORE THAN 42,000 CLAIMS AND  
SUITS SUCCESSFULLY HANDLED.

THE

**MEDICAL PROTECTIVE COMPANY**

OF FORT WAYNE, INDIANA

**WHEATON, ILLINOIS**



# Cut Out This Page and Post Conspicuously

## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 18

### FOODS

Borden Co., New York City.....  
R. B. Davis Co., Hoboken, N. J.....  
Lister Bros., 41 E. 42nd St., New York City..... 18  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass.....  
The Wander Company, 180 N. Michigan Ave., Chicago...

### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 16

### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 27  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago ..... 18

### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill.....  
Armour & Co., Chicago.....  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford..... 15  
Ciba Company, Cedar & Washington Sts., New York City 26  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago..... 16  
Denver Chemical Co..... 24  
Emerson Drug Co., Baltimore..... 13  
Harrower Laboratory, 160 N. La Salle St., Chicago..... 19

Adelphi Hurst & Co., Inc., 330 W. 42nd St., New York City 18  
Hynson, Westcott & Dunning, Charles and Chase Sts., Baltimore ..... 8  
Lilly, Eli & Co., Indianapolis, Ind..... 14  
Merck and Co., Rahway, N. J.....  
Metz Laboratories, Inc., New York.....  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 18  
Reed & Carnrick, Jersey City, N. J.....  
Schering and Glatz, Inc., New York City..... 23  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit.....  
Wm. R. Warner & Co., 113 W. 18th St., New York City... 6, 12  
Winthrop Chemical Co., 117 Judson St., New York City.... 7  
John Wyeth & Bro., Inc., Philadelphia..... 4

### SANATORIA AND SANITARIA

Edward Sanatorium, Naperville, Ill..... 27  
Kenilworth Sanitarium, Kenilworth, Ill..... 25  
Michell Farm Sanitarium, Peoria, Ill..... 28  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 25  
North Shore Health Resort, Winnetka, Ill..... 28  
Oconomowoc Health Resort, Oconomowoc, Wis..... 28  
Waukesha Springs Sanitarium, Waukesha, Wis..... 25  
Wilgus Sanitarium, Rockford, Ill..... 25

### SCHOOLS

Bancroft School, Haddonfield, N. J..... 18

### SURGICAL SUPPLIES

Johnson & Johnson, New Brunswick, N. J..... 8

. . . . SAFEGUARD YOUR PATIENT

» **Metaphyllin** «

(Aminophyllin N.N.R.)

For Angina Pectoris, Coronary Thrombosis, and other painful heart conditions.

COUNCIL ACCEPTED

Byk, Inc.



New York

Obtainable through

ADOLPHE HURST & CO., INC., 330 West 42nd St., New York, N. Y.



As a Chologogue . . .

**TAUROCOL** (TOROCOL)

is highly endorsed by the medical profession. TAUROCOL is a combination of bile salts, extracts of cascara sagrada, phenolphthalein and aromatics, widely prescribed by doctors for more than a quarter of a century.

If you are now prescribing TAUROCOL you know its efficacy in increasing bile flow. If you are not prescribing TAUROCOL will you please make a clinical test of TAUROCOL?

Samples and full information on request.

THE PAUL PLESSNER CO.  
DETROIT - - - - MICH.



VERA PERLES  
of Sandalwood  
Compound . . .  
another Plessner  
product.

IMS-34

## Cook County Graduate School of Medicine

(In affiliation with COOK COUNTY HOSPITAL)

ANNOUNCES CONTINUOUS COURSES

**MEDICINE** — General and Intensive Courses, all branches.

**PEDIATRICS**—Informal Course—Intensive Course.

**EAR, NOSE & THROAT**—Informal Course—Special Courses—Intensive Course.

**SURGERY**—General Course One, Two, Three and Six Months; Surgical Technique Two Weeks Intensive Course—Special Courses.

**GYNECOLOGY**—Three Months Course—Two Weeks Course—Special Courses.

**OBSTETRICS**—Informal Course—Two Weeks Intensive Course.

**FRACTURES & TRAUMATIC SURGERY**—Informal Course—(Intensive Course starting June 18th).

**UROLOGY**—General Course Two Months, Intensive Course Two Weeks—Special Course.

**CYSTOSCOPY**—Intensive Course. Attendance Limited. General, Intensive and Special Courses in Tuberculosis, Ophthalmology, Roentgenology, Pathology, Neurology, Proctology, Electrocardiography, Topographical and Surgical Anatomy, Physical Therapy, Gastroenterology, Allergy.

TEACHING FACULTY, Attending Staff of  
COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street  
Chicago, Illinois

# LISTERS

CASEIN PALMNUIT DIETETIC

# FLOUR

**No  
Starch**

prescribed in

→ **Diabetes** ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Listers Flour. Recipes are easy to follow and Listers Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a  
suitable environment

## The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey





# THYROID OBESITY

you will find a highly effective remedial agent in ENDOTHYRIN. You do not need to delay in using this thyroid product, because it is the most potent and least toxic total thyroid product available. It is three times the U.S.P. standard and much less toxic, proved by laboratory tests on animals. It is also economical—bottles of fifty 1/2-gr. tablets cost your patients only 90 cents. Note the divided tablet (illustration) facilitating the giving of small doses.

## ENDOTHYRIN

Not "just another thyroid extract," but a far superior one.

The HARROWER LABORATORY, Inc.

GLENDAL, CALIF.  
920 E. Broadway

NEW YORK, N. Y.  
9 Park Place

CHICAGO, ILL.  
160 N. La Salle St.

DALLAS, TEX.  
833 Allen Bldg.

PORTLAND, ORE.  
316 Pittcock Block

# ILLINOIS STATE MEDICAL SOCIETY

## OFFICERS OF SECTIONS ILLINOIS STATE MEDICAL SOCIETY, 1933-1934

### SECTION ON MEDICINE

R. F. Herndon, Chairman, Springfield  
Don C. Sutton, Secretary, Chicago.

### SECTION ON SURGERY

George W. Post, Chairman, Chicago.  
B. V. McClanahan, Secretary, Galesburg.

### SECTION ON EYE, EAR, NOSE AND THROAT

Geo. S. Duntley, Chairman, Macomb.  
O. B. Nugent, Secretary, Chicago.

### SECTION ON PUBLIC HEALTH AND HYGIENE

J. H. Beard, Chairman, Urbana.  
Lloyd Arnold, Secretary, Chicago.

### SECTION ON RADIOLOGY

Robert F. Arens, Chairman, Chicago.  
F. Flynn, Secretary, Decatur.

### SECRETARIES' CONFERENCE

H. A. Felts, President, Marion.  
Elizabeth R. Miner, Vice-President, Macomb.  
C. D. Snively, Secretary, Ipava.

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

County	President	Secretary
Adams	R. A. Harris, Quincy	Walter Stevenson, Quincy.
Alexander	R. E. Barrows, Cairo	J. S. Johnson, Cairo.
Bond	W. C. Dixon, Greenville	Wm. T. Easley, Greenville.
Boone	M. L. Hartman, Belvidere	E. F. Dettmann, Belvidere.
Brown	John G. Ash, Mt. Sterling	C. B. Dearborn, Mt. Sterling.
Bureau	R. Herrick, Wyandot	C. R. Bates, Depue.
Calhoun	No Society.	
Carroll	W. J. Scholes, Lanark	H. R. Sword, Milledgeville.
Cass	D. E. Haworth, Beardstown	W. W. Holland, Beardstown.
Champaign	W. M. Honn, Champaign	W. F. Lamkin, Champaign.
Christian	W. S. Miller, Assumption	Perry E. Duncan, Taylorville.
Clark	H. G. Anderson, Westfield	H. C. Houser, Westfield.
Clay	C. Henderson, Clay City	H. D. Fehrenbacher, Flora.
Clinton	H. B. Warren, Breese	W. S. Carter, Trenton.
Coles-Cumberland	J. A. Oliver, Charleston	E. E. Richardson, Mattoon.
Cook	Austin A. Hayden, Chicago	Thomas P. Foley, Chicago.
Crawford	T. N. Rafferty, Robinson	J. W. Long, Robinson.
De Kalb	James C. Ellis, De Kalb	C. E. Smith, De Kalb.
De Witt	C. S. Bogardus, Clinton	Wm. R. Marshall, Clinton.
Douglas	J. O. Cletcher, Tuscola	George H. Fuller, Tuscola.
Du Page	Harry W. Kinne, West Chicago	A. R. Rikli, Naperville.
Edgar	E. O. Laughlin, Paris	George H. Hunt, Paris.
Edwards	W. E. Buxton, West Salem	A. J. Boston, Albion.
Effingham	F. M. Phillips, Farina	T. F. Reuther, Effingham.
Fayette	A. R. Whitefort, St. Elmo	G. A. Stanberry, Vandalia.
Ford	L. C. Ditty, Piper City	I. D. Kelsheimer, Paxton.
Franklin	J. J. Ellis, W. Frankfort	W. H. Smith, Benton.
Fulton	G. L. Stoehr, London Mills	C. D. Snively, Ipava.
Gallatin	J. A. Womack, Equality	J. C. Murphy, Ridgway.
Greene	E. E. Jouett, Carrollton	W. H. Garrison, White Hall.
Hancock	D. F. Scott, Carthage	W. P. Frazier, Carthage.
Hardin	J. R. De Velling	J. L. Paris, Elizabethtown.
Henderson	C. J. Eads, Oquawka	M. J. Babcock, Biggsboro.
Henry	R. H. Stewart, Galva	P. J. McDermott, Kewanee.
Iroquois	Myrtle Swieimer, Watseka	W. F. Buckner, Watseka.
Jackson	B. F. Crain, Carbondale	Edward K. Ellis, Murphysboro.
Jasper	J. R. Wattleworth, Newton	G. C. Brown, St. Marie.
Jefferson Hamilton	T. A. Clark, Mt. Vernon	Andy Hall, Mt. Vernon.
Jersey	H. R. Bohannon, Jerseyville	B. M. Brewster, Fieldon.
Jo Daviess	W. S. Lewis, E. Dubuque	R. E. Logan, Galena.
Johnson	Wm. Thompson, Cypress	G. K. Farris, Vienna.
Kane	R. H. Graham, Aurora	K. M. Manougan, Elgin.
Kankakee	G. H. Ayling, Kankakee	J. H. Gamet, Mokena.
Kendall	No Society.	
Knox	C. G. Johnson, Galesburg	L. N. Tate, Galesburg.
Lake	G. Q. Grady, Highland Park	W. L. Winters, Highland Park.
La Salle	Geo. Klumpner, Ottawa	Roswell T. Pettit, Ottawa.
Lawrence	Wm. R. Mangum, Bridgeport	R. L. Gordon, Lawrenceville.
Lee	W. T. Holladay, Amboy	K. B. Segner, Dixon.
Livingston	E. F. Law, Fairbury	H. L. Parkhill, Pontiac.
Logan	Carl F. Becker, Lincoln	H. Bradburn, Lincoln.
McDonough	Henry Hermetet, Macomb	Elizabeth R. Miner, Macomb.
McHenry	J. G. Maxon, Harvard	F. L. Alford, Crystal Lake.
McLean	J. C. McNutt, Bloomington	Ralph P. Peairs, Normal.
Macon	D. D. Smith, Decatur	D. A. Pence, Decatur.
Macoupin	A. H. Hunter, Staunton	T. D. Doan, Palmyra.
Madison	N. C. Baumann, Highland	D. D. Monroe, Edwardsville.
Marion	H. E. Schoonover, Salem	H. O. Williams, Centralia.
Mason	W. A. Steele, Havana	W. H. Schuette, Mason City.
Massac	J. H. Gann, Brookport	M. H. Trovillion, Metropolis.
Menard	Irving Newcomer, Petersburg	R. E. Valentine, Tallula.
Mercer	Walter Miles, Viola	V. A. McClanahan, Aledo.
Monroe	E. T. Lark, Columbia	R. G. Empson, Valmeyer.
Montgomery	H. C. Turney, Coffeen	H. F. Bennett, Litchfield.
Morgan	A. L. Adams, Jacksonville	Friedrich Engelback, Jacksonville.
Moultrie	W. Williamson, Sullivan	W. B. Kilton, Sullivan.
Ogle	R. O. Brown, Mt. Morris	A. R. Bogue, Rochelle.
Peoria City Medical Society	A. P. Kannapel, Peoria	C. W. Margaret, Peoria.

(Continued on page 27)





## HISTORY

(This side to be filled in by the person to be examined)

1. Name ..... Country of birth.....Date of birth.....
2. Address .....Race .....
3. Single, married, widowed, divorced.....
4. Occupation .....
5. How often have you changed your work?.....Why? .....
6. Is your work dangerous or unhealthy?.....
7. Is it indoors or out?.....
8. Is it light where you work?.....Dark?.....Dusty? ....Smelly?....Noisy?....Crowded?....
9. At work are you usually seated, standing, or walking? .....
10. How many hours a day do you work?.....How many days a week?.....
11. Have you a room and bed to yourself?.....With window open?.....
12. What are your hours of sleep?.....Is your sleep restful?.....By what is it disturbed? .....
13. Where do you eat your meals?.....
14. How much time do you take for each meal?.....
15. Of what foods are you especially fond?.....
16. How much do you drink daily of:
 

Water .....	Tea .....	Soft drinks .....
Milk .....	Coffee.....	Alcoholic drinks .....
17. Do you eat candy?.....
18. Do you have a bowel movement daily without the use of drugs?.....What laxative do you use?.....How often? .....Do you have pain or bleeding with bowel movement?.....How often? .....
19. Have your menstrual periods been regular?.....
20. Have they interfered with your usual occupations? .....
21. Have pregnancies and confinements been free from accidents? .....
22. How often do you bathe?.....
23. What regular exercises do you take in addition to your work?.....
24. Do you share in church, social, political, club, or trade associations?.....
25. What are your pleasures or recreations?.....
26. Have you had any of the following diseases and at what ages?
 

Tuberculosis .....	Scarlet fever .....	Tonsilitis .....
Malaria .....	Diphtheria.....	Frequent colds.....
Rheumatism .....	Typhoid fever .....	Syphilis or gonorrhea.....
27. Do you have dyspepsia?.....
28. Do you have headaches?.....
29. Are you short of breath on going up stairs?.....
30. Do you catch cold easily and often?.....
31. Are you subject to sore throats?.....
32. Have you been vaccinated against small pox, typhoid fever, diphtheria?.....When? .....
33. Have you had any accidents, broken bones or surgical operations? .....
34. How often do you consult you dentist?.....
35. Are you as well at present as formerly?.....If not, why?.....
36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....





# A N U S O L

A FAMILIAR PACKAGE to many physicians, and each suppository in it a promise for relief in hemorrhoids. Imitations come and go. But the therapeutic worth of Anusol Suppositories, Schering & Glatz, is only emphasized in comparison. When pain and discomfort must be relieved, congestion reduced and bleeding checked in hemorrhoids—nothing will do it more promptly and efficiently than Anusol Suppositories, Schering & Glatz. Yet no narcotic, analgesic or anesthetic drug enters into their composition. The relief Anusol Suppositories give is genuine. Let us acquaint you with Anusol Suppositories, Schering & Glatz, by sending you a trial supply.

Anusol is registered in the U.S. Pat. Off.

SCHERING & GLATZ, INC. 113 WEST 18TH ST. NEW YORK CITY



## **HEN DIATHERMY, RADIANT HEAT,**

**GALVANIC CURRENT,** or other physiotherapeutic measures are applied in such conditions as diseases of the pelvic organs, the genito-urinary tract, rheumatism, etc., they should be followed up with correct after-treatment.

Antiphlogistine may advantageously be employed as an adjuvant in the majority of such cases, not only on account of its synergistic powers to sustain heat within the tissues, but because of its soothing, antipruritic, decongestive and protective qualities when applied to erythematous, erosive, indurated and painful surfaces.

*Sample  
and  
literature  
on request*

THE DENVER CHEMICAL MFG. COMPANY  
163 Varick Street, New York, N. Y.

# **ANTIPHLOGISTINE**

*in Physiotherapy*



## Kenilworth Sanitarium

KENILWORTH, ILLINOIS

Northern Suburb of Chicago

Founded by Sanger Brown, M. D. 1905

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M.D., CHRISTY BROWN  
Assistant Physician Business Manager  
PETER BASOE, M.D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

For Mild Mental and Nervous Diseases

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

Licensed by the Illinois State Department of Public Welfare.

Member of the Central Neuropsychiatric Hospital Association.

Rockford, Illinois

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director  
FLOYD W. APLIN, M. D.

Waukesha, Wisconsin

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

For the Treatment of Nervous and Mental Disorders

DR. FRANK P. NORBURY, Medical Director  
DR. ALBERT H. DOLLEA, Superintendent  
DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK

Address  
Communications

THE NORBURY SANATORIUM, Jacksonville, Illinois

# In your Hemorrhoid cases, Doctor



**W**HEN your patients demand relief from the unbearable itching and pain, try NUPERCINE, "Ciba", OINTMENT 1%. Clinical reports show such remarkable results that we should like to have you prove in your own practice and to your own satisfaction the merits of this product.

## NUPERCINE "Ciba" OINTMENT 1%

due to its anesthetic and healing action, has also been found to be highly effective in relieving the pain and itching accompanying **Superficial Carcinomata, Pruritis Ani or Vulvae, Dry Eczema, Burns,** and other painful or itching skin conditions. We will gladly send samples and literature on request.

**CIBA COMPANY, INC.**  
NEW YORK, N. Y.

DRUG ADDICTION (30 Years' Experience.)

THE STOKES HOSPITAL, 923 Cherokee Road, Louisville, Kentucky. Phone East 1488. Treatment one of Gradual Reduction. Diarrhea, muscular spasm and withdrawal pains absent. Non-injurious, non dangerous, absolutely safe. Patient's identity protected. Privacy assured. Rates and folder on request.

### Book Reviews

(Continued from Page 15)

THE SURGICAL CLINICS OF NORTH AMERICA: Issued serially one number every other month. Volume 13, No. 6. Index Number. (Pacific Coast Surgical Association Number—December, 1933.) 284 pages with 97 illustrations. Per clinic year (February, 1933, to December, 1933). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

The contributors to this number are Doctors Atsatt, Baker, Brown, Butler, Chandler, Delprat, Diack, Eder, Eikenbary, Eloesser, Fagan, Flothow, Forbes, Guinan, Hand, Helper, Holden, Holman, Hunt, Joyce, Lamson, Mason, New, Pflueger, Reichert, Rockey, Scholl, Stowe, Swift, Taylor, Watkins, Weeks, Willis, Willis.

INTERNATIONAL CLINICS: A quarterly of illustrated clinical lectures, and especially prepared original articles by leading members of the medical profession throughout the world. Vol. IV, forty-third series, 1933. Philadelphia, Montreal, London. J. B. Lippincott Company. Price.

THE MEDICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 17, No. 3. (Philadelphia Number—November, 1933.) Octavo of 326 pages with 59 illustrations. Per Clinic year, July, 1933, to May, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

The contributors to this number are Doctors Bauer, Baumann, Boles, Burns, Charr, Clark, Custar, Davis, Dillon, Doane, Fetter, Gordon, Griffith, Jacobs, Jones, Kau, Klein, Kolmar, Kramer, Leaman, Leivy, Lewis, Mohler, Owen, Pepper, Piersol, Propp, Saul, Schnabel, Cohen, Steinfeld, Torrey, Tumen, Weiner, Weiss, Wise.

MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 17, Number 5. (New York Number—March, 1934.) Octavo of 324 pages with 32 illustrations. Per Clinic Year, July, 1933, to May, 1934, paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

The contributors to this number are Drs. Ackerly, Alving, Ashe, Atchley, Bass, Boyd, Brooks, Duryee, Goodwin, Green, Held, Kirby, Lichtwitz, Loeb, Miller, Moffat, Palmer, Peck, Phillips, Quick, Rhoads, Schick, Brown, Topper, Van Slyke, Wright.

O powerful, western, fallen star!  
O shades of night! O moody, tearful night!  
O great star disappeared! O the black murk that hides the star!



# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director ; Alberto L. de Guevara, M. D., Asso. Medical Director

Naperville, Illinois

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis.

Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

## The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago

(Continued from page 20)

Perry .....	F. B. Hiller, Pinckneyville.....	H. I. Stevens, Tamaroa.
Piatt .....	W. E. Burgett, Bement.....	J. H. Holmes, Monticello.
Pike .....	R. P. Wells, Pleasant Hill.....	W. W. Kuntz, Barry.
Pope .....	No Society.	
Pulaski .....	O. T. Hudson, Mounds.....	Berry V. Rife, Mounds.
Randolph .....	A. C. Wiebush, Steeleville.....	O. C. Church, Steeleville.
Richland .....	H. D. Fahrenbacher, Olney.....	F. L. Barthelme, Olney.
Rock Island.....	R. W. Hardinger, Rock Island.....	H. W. Shuman, Rock Island.
St. Clair.....	H. M. Voris, East St. Louis.....	I. L. Foulon, East St. Louis.
Saline .....	Wm. Johnson, Eldorado.....	Frank Johnson, Eldorado.
Sangamon .....	Harry Otten, Springfield.....	H. P. Macnamara, Springfield.
Schuyler .....	C. M. Fleming, Rushville.....	Geo. C. Bates, Rushville.
Scott .....	No Society.	
Shelby .....	A. B. Storm, Windsor.....	C. H. Hulick, Shelbyville.
Stark .....	J. C. Williamson, Toulon.....	Clyde Berfield, Toulon.
Stephenson .....	C. L. Best, Freeport.....	K. B. Rieger, Freeport.
Tazewell .....	H. W. Walker, Pekin.....	Louis A. Balke, Pekin.
Union .....	E. V. Hale, Anna.....	W. J. Benner, Anna.
Vermilion .....	W. T. Snider, Oakwood.....	A. R. Brandenberger, Danville.
Wabash .....	E. P. Keneipp, Mt. Carmel.....	H. A. Elkins, Mt. Carmel.
Warren .....	Ralph Graham, Monmouth.....	Chas. P. Blair, Monmouth.
Washington .....	P. B. Rabenneck, Nashville.....	G. A. Green, Nashville.
Wayne .....	T. J. Blakely, Fairfield.....	L. W. Young, Fairfield.
White .....	J. T. Legier, Carmi.....	R. C. Brown, Carmi.
Whiteside .....	Isaac Vandermyde, Prophetstown.....	L. S. Reavley, Sterling.
Will-Grundy .....	Bernard Klein, Joliet.....	D. W. Kilinger, Joliet.
Williamson .....	J. G. Parmley, Marion.....	Harvey A. Felts, Marion.
Winnebago .....	K. G. Woodward, Rockford.....	E. H. Quandt, Rockford.
Woodford .....	F. W. Nickel, Eureka.....	W. S. Morrison, Minonk.

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
**CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL**  
231 West Washington Street, Chicago, Illinois

### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six  
X-ray, Basal Metabolism, Electrocardiography  
and Physical Therapy

# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN



Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

Fireproof building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

ARTHUR W. ROGERS, M.D., Physician in Charge  
JAMES C. HASSALL, M.D., Medical Supt. OWEN C. CLARK, M.D., Asst. Physician

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



Dr. George W. Michell, *Superintendent*  
Dr. Helen Coyle, *Medical Director*  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan  
WINNETKA, ILLINOIS  
16 Miles North of Chicago

Thoroughly Equipped Sanitarium

Hydrotherapy - Electrotherapy - Massage - Dietetics  
Occupational Therapy Department

Special facilities are offered for the care and  
treatment of nervous and chronic diseases.

*Ideal for Convalescents*

Write for Booklet or Phone WINNETKA 211  
Wm. R. Whitaker Wm. G. Stearns, M.D.  
Manager Medical Director



# Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS  
Office of Publication 715 Lake Street, Oak Park, Illinois

HEALING  
MEDICINE  
JUN 12 1934  
LIBRARY

Vol. LXV, NO. 6

OAK PARK, ILL., JUNE, 1934

\$3.00 a Year

## CONTENTS:

Editorials (See Extended Table of Contents for Titles) ..... 477

### ORIGINAL ARTICLES

The Doctor and His Community. *Philip H. Kreuscher, M. D., Chicago*..... 493  
Amebiasis, Diagnosis and Treatment. *James A. Conner, M. D., Chicago*..... 498  
Treatment of Hypotension in Arteriosclerosis. *Don. C. Sutton, M. D., and Harold C. Luth, M. D., Chicago*..... 500  
Hyperglycemic States and Insulin Resistance. *George A. Wiltrakis, M. D., Elgin, Ill.*..... 502  
Status of Medicine Under the New Deal. *Peter T. Swanish, Ph. D., Chicago*..... 505

Methyl Chloride Poisoning. *Albert Van der Kloot, M. D., Chicago*..... 508  
Eventration. *Frank M. Dry, M. D., Chicago*.... 509  
The Sex Harmonies. *August A. Werner, M. D., St. Louis, Mo.*..... 511  
Total Gastrectomy. *M. H. Streicher, M. D., Chicago* ..... 520  
Early Diagnosis of Pulmonary Tuberculosis. *Maurice Lewison, M. D., Chicago*..... 521  
Infant Welfare Clinic, Five Year Report. *George F. Muoms, M. D., Winnetka, Ill.*..... 523  
Rheumatic Diseases and Sore Throat re Hemolytic Streptococci. *Isadore Pilot, M. D., and David J. Davis, M. D., Chicago*..... 529

(Continued on Page 8)

Eighty-fourth Annual Meeting at Springfield, May 15, 16, 17, 1934

Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 8, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 8, 1917, authorized July 15, 1918.

## MILWAUKEE SANITARIUM, Wauwatosa, Wis

For NERVOUS DISORDERS

(Chicago Office—1823 Marshall Field Annex  
Wednesdays, 1-3 P. M.)

MAINTAINING the highest standards over a period of fifty years, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars sent on request.

**RESIDENT STAFF**  
ROCK SLEYSER, M.D., Med. Dir.  
WILLIAM T. KRADWELL, M.D.  
MERLE Q. HOWARD, M.D.  
CARROLL O. OSGOOD, M.D.

**ATTENDING STAFF**  
H. DOUGLAS SINGER, M.D.  
ARTHUR J. PATEK, M.D.

COLONIAL HALL  
One of the 14 Units in "Cottage Plan."



# Puncture Wounds and Powder Burns are indications for **TETANUS ANTITOXIN SQUIBB**

THE advent of summer will find many barefoot boys on city streets and country roads—more people on beaches—and a greater possibility of tetanus infection from lacerations, nail and splinter punctures, cuts and abrasions. Fourth of July celebrations particularly expose one to

wound and powder-burn risks. The early and routine use of Tetanus Antitoxin materially lessens the possibility of tetanus infection.

Tetanus Antitoxin Squibb is small in bulk, low in total solids and relatively free from inert proteins and lipoids thus reducing to a minimum the liability to serum sickness. Being isotonic with the blood and of high fluidity it is readily absorbed and therefore assures maximum prophylactic and therapeutic benefits.

Tetanus Antitoxin Squibb for prophylactic use is supplied in vials or syringes containing 1,500 units, and in syringes containing 3,000 units. Therapeutic doses are marketed in syringes containing 5,000, 10,000 and 20,000 units.

NOTE: To continue the benefits of passive immunization many physicians give a second dose of 1,500 units of Tetanus Antitoxin eight to ten days after the initial prophylactic injection.



*For literature write Professional Service Department,  
E. R. Squibb & Sons, 745  
Fifth Avenue, New York*



**E·R·SQUIBB & SONS, NEW YORK**  
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.





CHARLES S. SKAGGS, M. D.

President, Illinois State Medical Society, 1934-1935





# NOW... Rabies Vaccine in Concentrated Doses

The new  $\frac{1}{2}$ -cc. concentrated Rabies Vaccine Mulford in comparison to the old 2-cc. syringe. 25% more tissue vaccine and one-fourth the volume.



25% more brain and spinal-cord tissue in each dose and only one-fourth the volume! This is the new concentrated form of rabies vaccine—Mulford Rabies Vaccine (Human).

This improved, concentrated vaccine in an improved, smaller syringe means greater convenience for the physician and less pain at the site of injection for the patient. The superiority of the smaller dose is apparent

when considering that 14 or 21 doses are administered within a 10- to 14-day period.

The new Rabies Vaccine Mulford is a  $\frac{1}{2}$ -cc. dose containing a 25% sterile suspension of brain and spinal-cord tissue of rabbits moribund from the injection of a fixed strain of rabies. It is a killed vaccine. The amount and strength of vaccine are identical in each dose.

The new package is available for either the 14-dose or 21-dose treatment.

MULFORD BIOLOGICAL  
LABORATORIES

**Sharp & Dohme**

Philadelphia Baltimore Montreal

**Rabies Vaccine  
Mulford**

## THELESTRIN OVARIAN FOLLICULAR HORMONE

A standardized preparation of the ovarian follicular hormone for intensive ovarian therapy by hypodermic injection.

Indicated in the treatment of scanty menstrual flow,

amenorrhea and the vasomotor and nervous symptoms of the menopause.

Each ampoule contains 25 rat units standardized by the Allen-Doisy method.

*Boxes of 6 1-cc. ampoules*

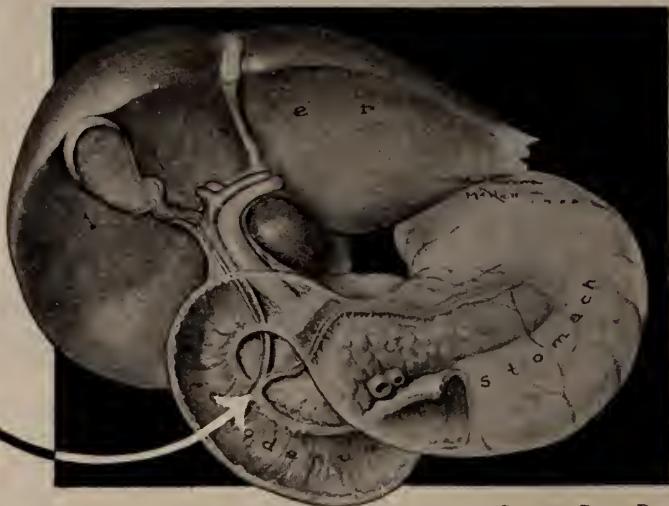
• G. W. CARNRICK CO. •

20 Mt. Pleasant Ave.

Newark, N. J.

# WHEN THE TROUBLE is HERE

# R<sub>x</sub>



Pancreas, Common Duct, Portal Vein and Duodenum are shown through the phantom Stomach.

# WYALIN

**B**ILIARY stasis, either of liver or of gall-bladder or bile duct origin, is associated with some stasis of the pancreatic duct.

The result is that the duodenum receives insufficient enzymes for digestion and insufficient bile for maintaining peristalsis and assisting in fat digestion.

WYALIN is indicated in these upper intestinal disturbances because it stimulates the *secretion* of bile, supplies pancreatic enzymes, stimulates the secretion of gastric juice, and increases bowel tonus. WYALIN contains no phenolphthalein.



**JOHN WYETH & BROTHER, Inc.**

Philadelphia, Pa. and Walkerville, Ont.





*Thou driftest gently down the tides of sleep.—LONGFELLOW*

# ORTAL SODIUM

*The New*  
BARBITURIC  
HYPNOTIC

Ortal Sodium is accepted for N. N. R. by the Council on Pharmacy and Chemistry of the American Medical Assn.

ORTAL SODIUM—the result of ten years of research in the Parke-Davis laboratories—is an effective rapidly-acting hypnotic; it induces sound, restful sleep, so necessary in a wide variety of physical and mental disorders. Ortal Sodium has low toxicity, and its use is free from unpleasant hang-over effect.

The effective hypnotic dose in most cases is one or two capsules.

Samples to physicians on request.

*Supplied in  
bottles of 25, 100  
and 500 3-grain  
capsules.*



*Parke, Davis & Co.* **DEPENDABLE MEDICATION  
BASED ON SCIENTIFIC RESEARCH**

NOW YOU SEE AGAROL



... NOW YOU SEE  
SOMETHING ELSE



THE RING around the drop tells the story. A drop of Agarol on blotting paper holds together firmly. Try this with a poor emulsion, and you will see that the mineral oil will be soon taken up by the blotting paper, forming a greasy ring around the drop. Agarol is as fine an emulsion of mineral oil and agar-agar with phenolphthalein as the modern art of pharmacy, aided by the skill of experience acquired in more than three-quarters of a century can produce. It never leaves an oily taste.

Finest, purest ingredients make Agarol palatable without artificial flavoring. It contains no sugar, no alcohol, no alkali.

For dependable efficacy Agarol has attained a reputation all its own, generously granted by those who have observed its good effects in the resultful treatment of constipation. \* \* Trial supply sent on request. \* \* Please use letterhead.

## AGAROL FOR CONSTIPATION

*Agarol is supplied in bottles containing 6 and 14 ounces.*

*The average dose is one tablespoonful.*

WILLIAM R. WARNER & CO., INC., 113 West 18th Street, New York City





# "I want you to get ARMOUR'S Suprarenalin Solution for your hay-fever"

"TAKE this prescription to your druggist. I want you to get Armour's Suprarenalin Solution for your hay-fever. That should bring you relief."

Non-irritant and giving symptomatic relief to inflamed mucous membranes by contracting the dilated vessels, Armour's Suprarenalin Solution is of particular value in the treatment of hay-fever. High efficacy is assured by *maximum and unvarying potency*, a characteristic of Armour organotherapeutic products, obtained by exclusive Armour methods of preparation. Fresh raw material is processed before the animal heat is lost. In thirty-five years not one product of the Armour Laboratories has been found wanting in potency.



When prescribing Pituitary Preparations, Elixir of Enzymes, Corpus Luteum, Ovarian Substance, Concentrated Liver Extract, Concentrated Liver Extract with Iron, and Thyroid, always specify Armour's.



**ARMOUR LABORATORIES**  
CHICAGO, U. S. A.

Headquarters for medical supplies of animal origin



• Drybak strappings are more practical. They discommode the patient less. Drybak is less conspicuous, because it is suntan in color. Its specially-treated backcloth repels water; hence the plaster does not loosen if the patient submerges the strapping in water while bathing. Supplied in J & J cartridge spools and hospital spools in all standard widths, and in rolls, 5 yds. x 12", uncut.

**COSTS NO MORE THAN  
REGULAR ADHESIVE PLASTER**

**ORDER FROM YOUR DEALER**

**Johnson & Johnson**  
NEW BRUNSWICK, N. J. CHICAGO, ILL.

**Professional Service Department**



*Free washing with*

**DRYBAK**  
**THE WATERPROOF ADHESIVE PLASTER**

## CONTENTS—Continued

Visualization of Liver and Spleen. Dick C. McCool, Jr., M. D., Kankakee, Ill.	535
Case of Friedlander's Bacillus Meningitis Secondary to Bilateral Acute Otitis Media. G. Howard Gowen, M. D., Chicago	533
Non-Gonorrheal Urethritis. Andrew McNally, M. D., Chicago	536
Mechanical Injuries of the Brain. W. T. Coughlin, M. D., St. Louis, Mo.	533
Management of Sterility in General Practice. Marshall Field, M. D., Chicago	513
Treatment of Varicose Veins. Hawthorne C. Wallace, M. D., Chicago	545
Eclampsia, Cooperation of Groups of Physicians. Dwight J. Ladd, M. D., Chicago	548
Value of Stovarsol in Treatment of Syphilis. Walter Wilhelmj, M. D., East St. Louis, Ill.	553
Treatment of Chorea by Typhoid Vaccine Infections. Emil T. Hoverson, M. D., Kankakee, Ill.	556
External Fecal Fistulae, Involving Abdominal Wall. Aimé Paul Heineck, M. D., Chicago	559
Gas bacillus Infection of the Extremities. E. W. Telford, M. D., De Kalb, Ill.	564

### EDITORIALS

Government Subsidies Are Socialism's Gifts	477
The 84th Annual Meeting	475
Birth Rate Falls Below Normal	480
Attorney General vs. Corporations	481
Reaching Out for the Profession	482
Report on Maternal Mortality	483
Medical Profession May Receive Joker	484
Practice of Medicine, Perils and Pitfalls	485

### CORRESPONDENCE

Congenitally Malformed	486
Not Theorists or Sociologists	486
Golfers in Cleveland	486
Woman's Auxiliary, Seven Years	486
Auxiliary to Illinois State Medical Society	488
Physical Therapy	490
Convalescent Serum	491
Amebiasis Diagnosis	491
American Legion	492

### SOCIETY PROCEEDINGS

Bureau County	566
Champaign County	566

(Continued on page 20)

## SEVEN YEAR'S USE

*has demonstrated the  
value of*

*The Surgical Solution*

*of*

**MERCUROCHROME, H. W. & D.**

*in*

**Preoperative Skin Disinfection**

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied. Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

*Literature on request*

**Hynson, Westcott & Dunning, Inc.**  
**BALTIMORE, MARYLAND**





If this tired, worried, over-worked mother were using Pablum for her babies' cereal feedings, she could have slept that extra much-needed hour instead of losing her temper while her children clamor for breakfast. For she can prepare Pablum in an instant, directly in the cereal bowl, simply by adding water or milk of any temperature—salt, cream and sugar for the older child and herself.

GETTING up an hour earlier in the morning is an inconvenience for most persons, but for the mother of young babies it is a hardship, sometimes almost tragic, frequently nullifying the best-planned pediatric advice.

This is especially true in the case of the nursing mother whose supply and quality of breast milk are affected by emotional shocks resulting often in agalactia and sometimes giving rise in the baby to diarrhea, colic, and even convulsions. Furthermore, the mother's emotional stress brings about a train of behavior on her part which is reflected in the child's psychologic reactions so that a vicious circle of bad habit formation is set up.

From this angle, the recent introduction of the pre-cooked form of Mead's Cereal, known as Pablum, assumes new importance in the doctor's

psychological handling of both mother and child, quite aside from its nutritional value.\*

Because Pablum can be prepared in a minute, the mother can sleep the extra hour she would otherwise be compelled to spend in a hot kitchen cooking cereal. Added rest means better poise, so that petty annoyances do not bring jaded nerves. Prompt feedings prevent many childhood tantrums, and a satisfied baby usually eats better and enjoys better digestion and growth.

\*Like Mead's Cereal, Pablum represents a great advance among cereals in that it is richer in a wider variety of minerals (chiefly calcium, phosphorus, iron, and copper), contains vitamins A, B, E, and G, is base-forming and is non-irritating. Added to these special features, it is adequate in protein, fat, carbohydrates, and calories. Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, yeast, alfalfa leaf, and beef bone.

**MEAD JOHNSON & COMPANY, Evansville, Indiana, U.S.A.**

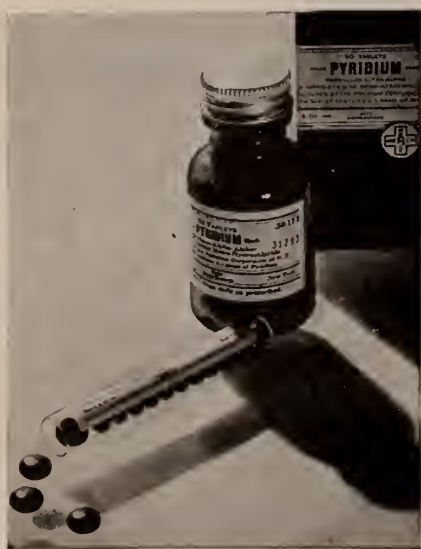
Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons



TRADE **PYRIDIDIUM** MARK

PHENYLAZO-ALPHA-ALPHA-DIAMINO-PYRIDINE MONO-HYDROCHLORIDE, MFD. BY PYRIDIDIUM CORP., N. Y.

"Good afternoon doctor . . . are you prescribing Pyridium?"



IN CASE you have never given Pyridium a trial, may we suggest that you do not delay further in taking advantage of its usefulness. It is very valuable for the alleviation of the distressing symptoms that often accompany genito-urinary infections, as well as in the treatment of these infections.

MERCK & CO. INC.

MANUFACTURING CHEMISTS

RAHWAY · NEW JERSEY





# A Serener Outlook

FOR YOUR ANGINAL PATIENTS

To restore the confidence of the patient afflicted with angina pectoris, coronary sclerosis, and coronary thrombosis; and to alleviate his fear of recurrent attacks, is not a difficult matter when Aminophyllin (Searle) is used. Administered orally, in tablet form, over a prolonged period, Aminophyllin (Searle) exerts a powerful prophylactic influence; it keeps the coronary vessels in a more or less constant state of dilatation which in some cases obviates the seizures entirely, in others greatly reduces their frequency and severity. \* \* \* Aminophyllin (Searle), a strictly American product, is also available in ampul form for parenteral administration, when relief from a paroxysm is imperative.

*Samples and Literature to Physicians on Request*

**G.D. Searle & Co.**

FINE PHARMACEUTICALS SINCE 1888

CHICAGO

LOS ANGELES

KANSAS CITY

SPOKANE



**Aminophyllin (Searle)**

COUNCIL ACCEPTED

# Second-Hand Prescriptions Exchanged Here



IF Mr. Culbertson could eavesdrop during a session of the Homeville Heights Bridge Club—well, he might be mildly shocked at some points in the play...

But, Doctor—his feelings would be nothing to yours if *you* could listen in—and hear the light-hearted way those ladies toss medical advice about!

And when the talk turns to infant feeding—how they love to trade their pet prescriptions! For some strange reason, almost everybody enjoys meddling with the feeding instructions a young mother gets from her physician.

A baby's best defense against these well-meaning meddlers is—his doctor's explicit formula. And if that formula calls for evaporated milk, it's well worth while, for safety's sake, to specify the brand. You know that only certain brands of evaporated milk measure up to your high standards—and that Borden's *always* does. Every step in its preparation—from the selection of the raw milk through the final sterilization—is rigidly supervised under skilled laboratory control.

May we send you a simple, compact infant-feed-

ing formulary, and other strictly professional material which we believe you will also find interesting and valuable? Address The Borden Company, Department IL 64, 350 Madison Avenue, New York City.



Borden's Evaporated Milk was the first evaporated milk for infant feeding to be submitted to the American Medical Association Committee on Foods, and the first to receive the seal of acceptance. No formulas are given to the laity.





No. 5 of a Series of Advertisements Prepared in the Interest of Acetanilid U.S.P. by the Emerson Drug Company



# "600,000 EYES"

*for*  
**ACETANILID U.S.P.**

**I**N his recent survey undertaken for the N. F., Gathercoal found that during a one year period, doctors in the United States had written 600,000 prescriptions with Acetanilid as an ingredient, usually the main ingredient. 600,000 are not a mere handful. They constitute ample affirmation that Acetanilid is an effective and safe drug for the relief of headache. Arrayed on the side of these thou-

sands of doctors prescribing this efficient drug, are such authorities as Cushny, Solis-Cohen, Herz, Osborne and Fishbein, and many others. They have found Acetanilid to be . . .

Therapeutically sound as an analgesic for most forms of cephalalgia, relieving pain almost instantly . . .

That when employed in the right manner, it has no toxic effect . . .

That it is *not* habit-forming.

Among the 600,000 prescriptions above mentioned, many physicians used Acetanilid alone, but a great number preferred to combine it with caffeine, sodium bromide, and sodium citrate, this latter to neutralize the possible occurrence of acidity. In the Gathercoal survey 1,895,896 prescriptions were found to contain caffeine, 8,030,400 sodium bromide, and 1,150,800 sodium citrate.

Many physicians prescribing Acetanilid for headache relief average 3 gr. to the dose, in conjunction with 1 gr. caffeine and sodium bromide and sodium citrate q. s. Bromo-Seltzer contains these as the active ingredients in effervescent state.



**EMERSON DRUG COMPANY**  
BALTIMORE, MD.

# ELI LILLY AND COMPANY

FOUNDED 1876

*Makers of Medicinal Products*



## Noteworthy combinations of Amytal:

*Pulvules Ephedrine and Amytal* for relief of bronchospasm. The value of this combination therapy in hay fever and allergic asthma has been amply demonstrated by many clinicians.

*Pulvules Amytal Compound* offer sedation with analgesia and have a wide field of therapeutic application in restlessness and insomnia where pain is a factor.

*These Lilly Products are supplied through the drug trade in bottles of 40 and 500 Pulvules.*

*Prompt Attention Given to Professional Inquiries*



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LXV

OAK PARK, ILL., June, 1934

No. 6

## ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

### GENERAL OFFICERS, 1934-1935

PRESIDENT.....CHARLES S. SKAGGS, East St. Louis  
PRESIDENT-ELECT.....CHARLES B. REED, Chicago  
1ST VICE-PRESIDENT.....A. E. WALTERS, Springfield  
2ND VICE-PRESIDENT...ELIZABETH R. MINER, Macomb  
SECRETARY.....HAROLD M. CAMP, Monmouth  
TREASURER.....A. J. MARKLEY, Belvidere

### THE COUNCIL

E. H. Weld, 1st District, Rockford .....1935  
E. C. Cook, 2nd District, Mendota .....1935  
R. K. Packard, 3rd District, Chicago .....1935  
J. S. Nagel, 3rd District, Chicago .....1937  
L. E. Day, 3rd District, Chicago .....1936  
E. P. Coleman, 4th District, Canton .....1937  
S. E. Munson, 5th District, Springfield ....1937  
T. B. Knox, 6th District, Quincy .....1936  
I. H. Neece, 7th District, Decatur .....1937  
C. E. Wilkinson, 8th District, Danville .....1937  
Andy Hall, 9th District, Mt. Vernon ....1936  
J. S. Templeton, 10th District, Pinckneyville ...1936  
Edw. S. Hamilton, 11th District, Kankakee .....1935  
Chairman of Council, R. K. Packard

### EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

### GENERAL COUNSEL

EDWIN W. RAWLINS.....105 S. La Salle St., Chicago

### PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

### MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago  
R. O. HAWTHORNE, *Secretary*.....Kankakee

### EDUCATION COMMITTEE

MISS JEAN McARTHUR, *Secretary*, 185 N. Wabash Ave., Chicago

### SCIENTIFIC SERVICE COMMITTEE

FRANK L. BROWN, *Chairman*.....4034 W. Madison St., Chicago  
HAROLD M. CAMP, *Secretary*.....Monmouth

### PUBLICATION COMMITTEE

HARRY J. STEWART, *Secretary*.....715 Lake St., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the JOURNAL represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original article, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Ave., Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this JOURNAL to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 50 cents.

## Editorials

### GOVERNMENT SUBSIDIES ARE SOCIALISM'S GIFTS TO ITS GODS— WITH "HEALTH INSURANCE AMONG THE BANNER DONATIONS"

Government subsidy is socialism's gift to its gods. Give a socialist a chance to gouge the government and he is well on his way to a socialist's heaven. For when you gouge the government, you gouge your neighbor, since what you and your neighbor have are all that is owned by the government. It may not always seem so, even though it is, and socialism, too, is like that.

Over in Great Britain what is called "national health insurance" is a gouge so subsidized by the British government and the British employer that the important fact is generally overlooked in discussions that not only is national health insurance largely socialistic, but that the evils in the system are due to this socialistic element.

And if anything can spread faster than erysipelas or cholera it is socialism in any form or manifestation.

The principle of health insurance—that those who would be unable to pay the cost of medical attendance in the ordinary manner should provide for it by insurance—is not beyond criticism. The evils of the socialistic element, as disclosed in the working of the system, have frequently been described in this Journal. An important question, for any country in which the introduction of national health insurance is contemplated is "*How far will the scheme be socialistic?*" Another question is "Supposing it is decided that a moderate subsidy from the state is necessary, as in other countries, what is the danger of the state, under political pressure, being compelled to subsidize more and more and make the scheme more socialistic? In England, constant demands are being made on the state for more and more, and the expenditure is much greater than was originally proposed. Moreover, there is the danger that under political pressure complete socialization of the medical profession may be

brought about. Under the socialist government this danger was so great that the British Medical Association brought forward a scheme of almost complete socialization, not because the Association or the profession wanted it but as a lesser evil than what might have been imposed by the government. With the crushing defeat of that government, this scheme has disappeared. But the socialist party remains active and no one would be bold enough to say that it may not be in power some day both in England and elsewhere. What may be expected from it is shown by the report in the *Lancet* of an address of Somerville Hastings, a laryngologist, who is a prominent member of the Socialist Medical Association, to the Lewisham Division of the British Medical Association.

Medical services, Hastings said, should be free to every one, payment for them being made out of the taxes on a whole time salary basis. Money is always a difficulty with patients; if the physician visits frequently, he is thought to be running up a bill; if he tries to avoid such a charge by staying away, he is reproached with neglect. The taxpayer admitted to a hospital would, if able, pay the full cost of maintenance there, but the medical charges would be covered by the taxes. Further Hastings referred to the services which in recent years have been removed from the province of the general practitioner and provided by the community — preventive medicine, infectious diseases, lunacy, treatment of school children, much maternity work, tuberculosis, venereal diseases. Rheumatism, orthopedics and cancer might soon be added, he said, and also at present the London County Council had no *outpatient departments attached to its hospitals, but they were coming*. There was too much time wasted by physicians in going round to see patients. Ill health cost the nation about \$1,000,000,000. The preventive medical service cost \$100,000,000 and the treatment services another \$450,000,000. Hastings doubts whether the state is getting value for its expenditure. Under his scheme there would be unit services for 50,000 people and most of the work would be done in a central clinic by a staff of twenty physicians working in conjunction with specialists. Hospitals and convalescent homes would be attached to the clinics. Private practice would still be allowed to physicians who did not come into the

service, but the aim would be to make this so attractive that rich and poor would flock to it.

Now like every other propaganda saturated "parlor-pink" this man Hastings, though trying to demolish the *source of the resources* assumes the continuance of the resources now provided by a society that still retains, in spite of socialistic adulteration, much of the efficiency of individualism. The complete socialization of the medical profession is not likely to be brought about without the complete socialization of everything else. If this ever should be achieved in any highly industrialized country the results would be much more disastrous than have followed the destruction of the capitalist system in the comparatively backward Russia. Mr. Hastings might ask himself the question With what efficiency does the Russian government supply the medical needs of the masses, or the much more important needs of food, clothing and housing? The fatal flaw in all socialistic schemes is that they take no account of the loss of efficiency due to removal of the incentive of individual advantage.

### THE EIGHTY-FOURTH ANNUAL MEETING

The 1934 Annual Meeting of the Illinois State Medical Society was held at Springfield on May 15, 16, 17, 1934. The meeting was well planned, the weather fine, and the attendance was unusually good. All meetings and all exhibits were housed under one roof in the spacious Knights of Columbus Building.

The Pediatricians held their special meeting on Tuesday morning, with excellent papers, and a good attendance. It is their intention of making this an annual meeting, to be held on Tuesday morning when the regular sections are not in session.

The Oration in Medicine was given on Tuesday afternoon by Dr. Walter L. Bierring, of Des Moines, Iowa, and the Oration in Surgery was delivered by Dr. Frederic J. Cotton, of Boston, on Wednesday morning. Both of these addresses were excellent, and were well attended. All section meetings were well planned, and carried out according to the regular schedule.

There were an unusually fine lot of scientific exhibits at the meeting this year, which attracted much attention. It is the plan for the next annual meeting, to stimulate a greater interest in the preparation of scientific exhibits, and to give



proper medals or certificates for those which receive the highest approval of the scientific exhibit committee to be named by the Council.

The President's Dinner was held at the Abraham Lincoln Hotel on Wednesday evening, and was well attended. The Society was especially honored with the presence of Governor Henry Horner, who made an extemporaneous speech, which was well received.

The Mayor, and other officials of the city of Springfield, assured the members and guests that they were welcome, and special privileges were placed at their disposal. The Sangamon County Medical Society, Committee on Arrangements, with Dr. A. E. Walters as Chairman, was well organized and the local arrangements were all that could have been asked for.

The first meeting of the House of Delegates was held on Tuesday afternoon, and much business transacted by the House. At the second meeting of the House of Delegates on Thursday morning, the following were elected:

Chas. S. Skaggs, East St. Louis, President, to succeed Dr. Chas. D. Center, deceased.

Chas. B. Reed, Chicago, President-Elect.

A. E. Walters, Springfield, First Vice-President.

Elizabeth R. Miner, Macomb, Second Vice-President.

Harold M. Camp, Monmouth, Secretary.

A. J. Markley, Belvidere, Treasurer.

Dr. John S. Nagel, Chicago; E. P. Coleman, Canton; S. E. Munson, Springfield; I. H. Neece, Decatur; and C. E. Wilkinson, Danville, were elected to succeed themselves as members of the Council.

*The following committees were elected:*

#### *Public Policy Committee*

W. S. Bougher, Chairman.....Chicago  
Chas. J. Drucek.....Chicago  
George Michell.....Peoria

#### *Legislative Committee*

John R. Neal, Chairman.....Springfield  
Thos. P. Foley.....Chicago  
Edward Bowe.....Jacksonville

#### *Medico-Legal Committee*

R. O. Hawthorne.....Monticello  
A. H. Geiger.....Chicago

#### *Medical Education and Hospitals Committee*

J. P. Simonds, Chairman.....Chicago  
W. R. Marshall.....Clinton  
H. O. Munson.....Rushville

#### *Relations to Public Health Administration Committee*

F. F. Maple.....Chicago  
L. O. Frech.....Decatur  
Thomas Meany.....Chicago  
B. Klein.....Joliet  
C. C. Rentfro.....Chicago  
*Delegates to the American Medical Association*  
C. J. Whalen.....Chicago  
W. D. Chapman.....Silvis  
J. J. Pflock.....Chicago  
G. Henry Mundt.....Chicago  
G. C. Otrich.....Belleville  
*Alternate Delegates to the A. M. A. (At large)*  
M. I. Kaplan.....Chicago  
W. E. Kittler.....Rochelle  
N. S. Davis.....Chicago  
R. J. Coultas.....Mattoon  
F. P. Hammond.....Chicago

#### SECTION OFFICERS FOR 1935

##### *Section on Medicine*

Don C. Sutton, Chairman.....Chicago  
George Parker, Secretary.....Peoria

##### *Section on Surgery*

J. W. Hermetet, Chairman.....Macomb  
John A. Wolfer, Secretary.....Chicago

##### *Section on Eye, Ear, Nose and Throat*

O. B. Nugent, Chairman.....Chicago  
W. W. Gailey, Secretary.....Bloomington

##### *Section on Public Health and Hygiene*

Lloyd Arnold, Chairman.....Chicago  
W. M. Talbert, Secretary.....Decatur

##### *Section on Radiology*

F. Flinn, Chairman.....Decatur  
George M. Landau, Secretary.....Chicago

##### *Secretaries' Conference*

Elizabeth R. Miner, Chairman.....Macomb  
C. D. Snively, Vice-Chairman.....Ipava  
Donald W. Killinger, Secretary.....Joliet

One of the interesting features of the 1934 Annual Meeting was the fracture demonstrations which were given at regular intervals during the meeting, and which were unusually interesting and well attended. It is the intention of the Society to continue these demonstrations in the future, and perhaps add other interesting demonstrations along other lines.

At the closing session of the House of Delegates, invitations for the 1935 meeting were extended from Rockford, Moline and Decatur. Rockford was successful in getting the meeting,

and the date of the 1935 Annual Meeting will be set by the Council at its June meeting.

The Sangamon County Medical Society once more demonstrated the fact that they are the perfect hosts in Springfield, and everyone in an official capacity in Capitol City is ever anxious to make the members and guests of the Society feel at home while in their fine city.

### BIRTH RATE FALLS BELOW PAR FROM CONTRACEPTIVE TEACH- INGS OR ROUTINE OF DYING RACE

Ups and downs of the stock market have more of a pick-up variance than does the birth market. From all reports the birth rate seems on the downward trend without interruption. How much of this decrease is due to the modern thirst for methods of "birth control" and how much is from depreciation of the race is a moot question. The birth rate everywhere is forsaking accepted standards. Possibly the wider dissemination of contraceptive information may have something to do with this depression, since in the Netherlands where birth control clinics have long been maintained officially, and in Switzerland where such practices have been broadly winked at if not sponsored in the open, the birth rate for 1932 remains at its precedent level. It is significant that for 1932 the birth rate in Japan knew an increase of approximately 25 percent, or in round figures an increase of 1,007,868 in 1932, as against 861,534 in 1931.

In the United States the decrease was on a basis of 28.75 percent between 1921 and 1932; during the same interval Chicago's birth rate decreased 33 percent.

By figures this birth rate business makes a tale of brevity and interest. Officially the figures read in part:

In 1932, Germany, Italy and Poland had marked decline in the birth rate. In the German reich the number of living births receded by 53,600. In Italy the number of living births was 34,150 fewer than in 1931, so that in 1932 the birth rate for Italy was only 23.8 per thousand, as compared with 24.9 births the previous year and 26.7 births in 1930. In Poland in 1931, 50,000 fewer births were recorded, and in 1932 there was a further decline of nearly 34,000, so that the birth rate of Poland dropped, over the two-year period, from 32.3 (1930) to 28.7 per thousand of population.

In the remaining countries of western, central and northern Europe the decline in the birth rate ranged from 0.2 to 0.7 per thousand. France had a decline in its birth rate of only 0.2 per thousand. In Sweden and Hungary the birth rate was only 0.2 and 0.3 per thousand of population, respectively, lower than in 1931.

Great Britain and Czechoslovakia showed a decline of 0.5 per thousand and Austria a drop of 0.7 per thousand. Unchanged birth rates were recorded in the Netherlands and in Switzerland. The countries of lowest birth rates at present are the German reich, Austria, Sweden and Great Britain, with birth rates ranging from 14.5 to 15.8 per thousand. France (with a birth rate of 17.2), Belgium (18.1) and Switzerland (16.7) have in recent years passed out of the group of nations with the lowest birth rates. The birth rates in Norway (16.7), Denmark (18.0) and Finland (19.5), together with Lithuania and Estonia, range around that of France and in some cases exceed it. In countries bordering on this area, limitation of births is making further progress, particularly in Czechoslovakia, Hungary and Italy, which countries report, in contrast with former high rates, birth rates of from 21 to 24 per thousand, which are lower than the birth rate of the German reich in 1923 (26.9). The birth rates in the countries of the Iberian peninsula (28.3 and 30.7) and in eastern and southeastern Europe are still high. There appears to be evidence, however, that the demographic pressure of the Slavic races of the East will in the near future lose considerable of its force. *It may be added that in 1932 the population of Japan increased by 1,007,868 (in 1931, by 861,534.)* The Orient is keeping up its man power.

In Great Britain the Registrar-General's Statistical Review for 1932, shows that the birth rate for England and Wales was 15.3 per thousand, which was 0.5 below that for 1931, the lowest previously recorded, and therefore was a new low record. The death rate was 12 per thousand, 0.3 below the rate for 1931 but 0.6 above that for 1930, but the 1930 rate was the lowest ever recorded and was largely due to an exceptionally mild winter. The death rate of infants under 1 year was 35 per thousand births, as compared with 66 in 1931 and 60 in 1930.

Traffic accidents due to mechanical vehicles were responsible for 5,671 deaths, against 4,452,



5,196, 5,792, 6,342 and 5,892 in the preceding five years. The death rate from cancer was 1,510 per million living, against 1,484 in 1931. If allowance is made for the higher age constitution of the population, the increase becomes much smaller. Tuberculosis again furnished a new low record, 837 per million. Puerperal sepsis was the cause of 1.55 deaths per thousand labors, and other "accidents of pregnancy and childbirth"

gave a rate of 2.49. The deaths from influenza numbered 13,156, against 14,409 in 1931, 5,019 in 1930 and 29,074 in 1929.

Here is a savory cud upon which the Statistician may chew.

If the Caucasian race expects to keep its head above water in world affairs these figures and their causes no less than their probable results will bear close investigation.

#### BIRTH RATES, U. S. A.

Decrease 1921-1932, nearly 28.75 percent.

Chicago decrease, 33 percent.

Year	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920
U. S. A. ...	17.3	18.0	18.9	18.9	19.8	20.6	20.7	21.5	22.4	22.2	22.3	24.2	23.7
Urban .....	16.3	17.5	19.0	19.4	20.1	21.0	21.2	21.9	22.8	22.5	22.3	24.0	23.9
Rural .....	18.3	18.5	18.7	18.4	19.5	20.3	20.2	21.0	22.8	22.0	22.5	24.4	23.5
Chicago													20.9
13.98													

### THE ATTORNEY GENERAL CONTESTS THE RIGHTS OF CORPORATIONS TO PRACTICE MEDICINE

The Attorney General of Illinois, Otto Kerner, has instituted *Quo Warranto* proceedings against the United Medical Service, a corporation practicing medicine in Chicago. The suit is now pending in the Superior Court of Cook County. A similar suit was won by the State's Attorney of Cook County last year and an appeal was prayed to the Supreme Court. However, the appellant, the losing corporation, withdrew its appeal before a decision was handed down.

The outcome of this suit is awaited with the greatest interest by the general public as no suggestion can be offered as to any public benefit that could come from putting the practice of medicine in the hands of corporations.

In the attorney general's *Quo Warranto* it is contended that the United Medical Service is operating in violation of the Medical Practice Act and that the practice of medicine is not lawful business in which a corporation may be engaged.

If corporations are to be allowed to employ doctors and to operate on the theory that the business side of the doctor's profession is to be separated from professional engagements, and such corporations may sell their stock at public sale, and have it listed on stock exchanges, the obligation of the individual doctor to the individual patient will be completely dissolved, and both the doctor and the patient will become victims of mere commercial money getting.

For thirteen years the Illinois State Medical Society has been working to have enacted a law that will prohibit corporations from practicing medicine. Here is a chronological epitome of the strenuous activity of the society members and committees and gives an idea of the expenditure of time, energy and money that has been disbursed in this direction.

### Illinois Has Been Alert in Legislative Protest Against Corporations Practicing Medicine

#### THE BAR HAS DONE BETTER FOR ITSELF IN PROFESSIONAL PROTECTION

The justice of a law inhibiting corporations from practicing medicine has been up for demonstration more or less continuously before the legislative body of the State of Illinois by Illinois doctors for fourteen years.

Few lines of legislation have been more urgent. None is more pressing now. Of no active economic condition are physicians more acutely aware.

Failure met repeated efforts to secure the desired legislation. This is not necessarily calamitous. The writer continues convinced that if legislation now on the statute books can be and is enforced that the laws already enacted are sufficient. As in many other instances it is enforcement of the existing statutes rather than the enactment of new laws that is indicated. And enforcement, there is the rub.

For several years this has been said repeatedly in the editorial columns of the ILLINOIS MEDICAL JOURNAL. Enforce the legislation we have

now and stop the practice of medicine by corporations.

Among the active measures taken by doctors in Illinois to prevent corporate practice of medicine may be mentioned;—

Senate Bill No. 362 introduced in 1921 by the late Senator Wheeler;

Senate Bill No. 291 introduced in 1927 by Senator Mason;

Senate Bill No. 231 introduced in 1929 by Senator Searcy of Springfield.

Let us look to the fate of these bills.

Senate Bill No. 362 was tabled in the committee on Public Health and Hygiene. Remembered very well is this hearing in that a nationally prominent lawyer and a member of the Board of the Public Health Institute appeared in opposition to the bill. He became quite heated in his arguments against the bill and told the senators "that it did not make any difference to his organization whether they passed the bill because even if it became a law they would not pay any attention to it." He probably knew his committee for the Bill was tabled.

As to bill No. 291 we worked very hard on it and had it reported out favorably from the committee and it was on the third reading of the Senate before the opponents had it tabled.

As to bill No. 231 similar to the preceding bills that Senator Searcy introduced this bill was also tabled in the committee.

For several years it has been the editor's contention that possibly we do not need a special law to deny corporations the right to practice medicine.

Emphasizing the statement that enforcement of current statutes would inhibit corporations practicing medicine let attention be called to the fact that the Medical Practice Act specifically sets forth exactly who may practice medicine in this state, item by item, and the word "corporation" is not included in it. This would indicate clearly that we do not need a law but rather an enforcement. But how can you enforce a law if attorneys, practicing barristers, supposedly executives and elucidators of the law, calmly enform the men that make the laws that they as attorneys and the bodies they represent do not intend to pay any attention to the laws!

This you will note was the comment made by a lawyer and a member of the board of the

Public Health Institute when Senate Bill No. 362 was up.

About three years ago the Supreme Court of the State of Illinois handed down a decision that had been before them for several years and that denied the banks the right to practice law. That all lawyers do not think like the Public Health Institute representative is indicated by the steps that lawyers have taken to protect the individuality and rights of their own profession in the Illinois statute prohibiting corporations from Practicing Law passed by the General Assembly of Illinois in 1917.

This excerpt from the act is taken from Section 234 of Chapter 32 of Cahill's Illinois Revised Statutes:

Be it enacted by the People of the State of Illinois, represented in General Assembly: It shall be unlawful for a corporation to practice law or appear as an attorney at law for any reason in any court in this State or before any judicial body, or to make it a business to practice as an attorney at law for any person in any of said courts or to hold itself out to the public as being entitled to practice law or to render or furnish legal services or advice or to furnish attorneys or counsel or to render legal services of any kind in actions or proceedings of any nature or in any other way or manner to assume to be entitled to practice law, or to assume, use and advertise the title of lawyers or attorney, attorney at law, or equivalent terms in any language in such manner as to convey the impression that it is entitled to practice law, or to furnish legal advice, furnish attorneys or counsel, or to advertise that either alone or together with, or by or through, any person, whether a duly and regularly admitted attorney at law or not, it has, owns, conducts or maintains a law office, or an office for the practice of law or for furnishing legal advice, services or counsel.

### THEY ARE REACHING OUT FOR THE MEDICAL PROFESSION FOR AN EASY RIDING BUCKBOARD

John A. Kingsbury, secretary of the Milbank Fund, speaking at the National Conference of Social Workers in Kansas City on May 26, 1934, attempted to show a method by which the American people could secure adequate medical and



hospital care without resorting to State Medicine.

The studies in progress to this end that are being made by the Milbank Memorial Fund, a New York Philanthropic foundation, were explained by Mr. Kingsbury as devoted to finding a way to assure medical care, particularly for the great majority of citizens who occupy positions in the lower income brackets.

The plan as evolved thus far, Mr. Kingsbury said, "sets up an American method to mutualize medical costs through compulsory health insurance." What the foundation executive was quick to explain was the "wide difference" between the Milbank plan and "State Medicine" or the "Socialization of Medical Practice." "Contrary to the socialization scheme which describes tax supported medical work of the federal government, State, Counties and Cities, the Milbank plan is based on continuing the present political-economic system," asserted Mr. Kingsbury.

This contention by Mr. Kingsbury is interesting and may we be pardoned if we write "Methinks the gentleman doth protest too much!" Some differences are in accent rather than in actuality.

Others beside this JOURNAL hold this belief. Listen also to William Trufant Foster, a well known economist, appearing before the American Academy of Political Science and the College of Physicians of Philadelphia, February 7, 1934, and the gist of whose speech runs: "It is folly to burden physicians any longer with business affairs which they have notoriously mismanaged and for which they are not trained; in which they are not interested and which interfere with that single hearted devotion to patients which is the glory of their profession." The inference gained from Mr. Foster's statement is that medicine should be taken over by the state, so that the "poor physician" may be treated like an imbecile.

The Milbank Fund directors and scores of other foundation managements, together with philanthropists and politicians are again advocating compulsory health insurance. They are proceeding at an alarming rate along the road that leads to socialization of medicine. It will not be long before measures looking in that direction will be coming before state legislatures. Powerful forces are behind these measures. All that the doctors will have to do to insure these

measures success will be to do nothing. When the physician wakes up to find that he is only a hired man sent here and there by some civilian official it will be too late, and this warning should not need repetition.

At the Michigan State Medical Society meeting held in Flint, Michigan, on April 12, 1934, preliminary endorsement was given to a system of voluntary health insurance entitled "*Mutual Health Service*."

Beginning in 1916, Illinois doctors inaugurated a campaign of education against Compulsory Health Insurance. Our educational propaganda against compulsory health insurance was energetically carried on over a period of years culminating in 1922 in the passage of a resolution at the New Orleans meeting of the American Medical Association in which the parent organization condemned outright the idea of compulsory health insurance in America.

The doctors of Illinois must assume again a militant attitude so as to prevent the establishment of compulsory health insurance in order to avert a repetition in the United States of the disastrous consequences that attended the adoption of Health Insurance in other countries.

This is not a cry of "WOLF." It is the warning of "PLAGUE!"

The theorists and politico jobbists wreaked upon this long suffering credulous nation the curse of prohibition, or rather of prohibition laws that could not be enforced, but bred a race of criminals. With that invidious law repealed, the parlor pinks need a new vehicle. They are reaching out for the medical profession for an easy riding buckboard.

---

**THE REPORT ON "MATERNAL MORTALITY" AS ISSUED BY THE NEW YORK ACADEMY OF MEDICINE  
MAY GO DOWN IN HISTORY  
AS THE BIRTH OF THE  
BOOMERANG**

The medical profession is beginning to show signs of possible recovery from the terrible epidemic of "reportitis" that has been raging from lecture room to hospitals. A few doctors are commencing to wonder about the art of talking too much.

And the best of it is that recuperation is commencing from the seat of one of the most vital

and acute attacks. It would seem to be an intro-vertive inflammation.

The "report on Maternal Mortality" as issued by the New York Academy of Medicine may go down in history as the birth of the boomerang. The New York Academy of Medicine, the Medical Society of the County of New York and the New York Obstetrical Society held a joint meeting on March 7 to do a little hammering on the topic of maternal mortality in New York City. The savants who spoke all implied that the lay publicity upon their report had given a false impression. Among other things they insisted that the word "preventable" was misunderstood, and that they did not mean to imply that midwives were better than doctors, and that they did not mean to infer that all the deaths on the list occurred because the physicians were careless or untrained.

However, nobody made any apology. As one man who attended wrote, "the meeting was so long and so scientific that one was either impressed with the dignity of the occasion or else he was so played out by the end of the meeting that he didn't feel that his words of criticism would carry any weight." The worst part of that report is, that no matter what the doctors think and feel about it, the lay public is convinced that it was a great scientific document which recommends to all prospective mothers a midwife in the home rather than an obstetrician in a hospital.

---

#### THE MEDICAL PROFESSION MAY RECEIVE FROM THE NEW DEAL THE SAME SORT OF JOKER RUSSIAN PHYSICIANS WERE DEALT UNDER LAY DICTATORSHIP

The medical profession must be on the alert to guard against receiving from "The New Deal" the same sort of joker as has been dealt out to Russian physicians under the lay dictatorship and governmental bureaucracy of the soviet.

To the cagey nostril there is more than a suspicion of soviet scent in the perspective upon the profession that seems to be inherent in the "New Dealers."

"Doctors, Beware!" is the maxim that should hang in every doctor's mind and heart in these hey-days of the new deal.

That medicine is a thing apart, a science

that can not be learned in an instant nor thrown aside in an hour, is an element of knowledge that some of our keenest politicians and would-be philanthropists seem unable to learn.

Over in Russia where the doctor has been fed up with lay dictation and bureaucracy for some time, there is a distant rumbling as if the soviet was about to be educated in some respects, quite in spite of itself.

Physicians in the soviet would seem to be about to give a spectacular example of the worm in process of turning.

In some instances even the Russian press, sadly subsidized and sovietized as it is, has started to lend a hand to those sad underdogs, the soviet physician.

Insufferably poor living and working conditions, and lack of medicine and medical facilities, too much governmental interference, too much lay dictation and unlimited areas of social service are a few of the handicaps of the "free" physician under the soviet.

Here is a beautiful example of the science of medicine being practiced by politics and by the laity. Technicians get especial privileges. For them is the closed co-operative store, the rest homes and all the other socialistic perquisites of the U. S. S. R. Even the veterinarian gets a helping of this "sugar." None of this comes the way of the physician who is compelled to undertake excessive quantities of extraneous labor, dictated to by ignorant committees with a thousand hampering details and given none of the privileges that are their due when it comes to food and housing facilities.

There is a new commissar for public health, George Naomovitch Kaminsky, upon whom the press in part has called to "put a stethoscope to the chest of the medical profession and to do something to correct these ills."

The *Evening Moscow* has even gone so far as to publish excerpts from what is said to be the "Diary of a Physician," and these say in part:

"Page 1. Who are we? The newspapers call us the Commanders of Soviet Medicine, or 'the engineers of the medical industry,' or 'the steersmen of the public health.' But when this 'steersman' goes to the president of his house committee with a timid request for some of the facilities which engineers and technical workers enjoy he is told that he is 'an ordinary employe.'



"'To whom do you give medical assistance?'  
'To the people.'

### *Veterinaries Enjoy Privileges*

"That's just too bad for you. According to the existing regulations only veterinaries enjoy the privileges of engineers and technicians.'

"When I examine the heart of a patient I keep thinking to myself: 'I wish it were a horse.'

"Page 2. Behind the door the patients are waiting. Some of them cough, some sneeze, those with rheumatism groan. And I sit and do social work. I am writing letters suggesting that people purchase medical literature. As soon as I am through with my patients I must run around to various houses and distribute these letters. A nice job for a specialist of eighteen years standing.

"All doctors working in the ambulatoria—dentists, oculists, surgeons, gynecologists—are attached to households and must visit apartments to look for lice in the dirty linen. No one would think of sending an engineer to polish floors as 'social work.'

### *Often Reprimanded*

"We who have refused to hunt lice are called 'antisocial elements' and have been reprimanded and threatened with expulsion from our trade union. And so the doctors must obey. They distribute letters, hunt lice, perform disinfections and have no time to read current medical literature.

"Page 3. A doctor who works in an ambulatorium must examine eighteen patients daily. But in fact we have to receive thirty-five. The patient has not even time to undress himself. Today I had to listen to a heart through a heavy overcoat.

"Page 4. Again I read in the papers that we are the 'engineers of the medical industry.' But the engineers have their closed cooperative stores, their rest homes and their evening coffee. And we who work in the big hospitals dream only of having a decent buffet.

"Page 5. I ask a patient 'where is your complaint?'

"'At the ambulatory.'

"'No, I mean why are you complaining?'

"'Because I have been sick eight days. I have called a doctor three times. One said I had

lagrippe, another that I had typhoid fever, and the third said I wasn't sick at all.'

### *Can't See Patients*

"This is probably true. What diagnosis can I make when I don't see the patient at the beginning of his illness and I know that I won't see him at the end of it. I have simply become a bureau for issuing slips which will later enable the patient to receive his insurance money."

## THE PRACTICE OF MEDICINE, ITS PERILS AND ITS PITFALLS

Medicine finds itself today confronted with:

1. Threatened government control with all the ramifications of politics, lay dictation and hampering bureaucratic red tape, and complete scientific failure.

2. Usurpation of medical practice by law endowed or tax supported or otherwise financially aided institutions in which the scientific practitioner is no longer a free agent but a subdued and subsidized subordinate.

3. Almost complete annihilation of that indispensable ingredient in the public health and welfare, the general practitioner.

4. A shamelessly shameful misrepresentation before the public it serves.

5. Practical deprivation of the same professional rights as are demanded by any expert mechanic, merchant or agricultural worker.

6. An average rate of payment for services rendered that is greatly below that enjoyed by the bulk of the United States citizenry.

### COMPLETED TASK

Forever finish right your task  
Though minute details irk,  
Nor should an hour be wrongly saved  
By placing faulty work.  
A perfect thing is e'er a joy;  
Forget the care it bore,  
What matters if you tear it out  
A dozen times or more?

The labor wrought will be forgot  
Within a year or two  
While jobs left poorly fitted will  
Forever torment you.  
Your eyes will tire of seeing an  
Imperfect piece of work,  
And you will scorn the empty hour  
Which prompted you to shirk.

—EFFIE M. WATT.

## Correspondence

### AN INTENSIVE STUDY OF FAMILIES INTO WHICH CONGENITALLY MAL- FORMED INDIVIDUALS HAVE BEEN BORN

The Gynecean Hospital Institute of Gynecologic Research of the University of Pennsylvania, is conducting an intensive study of families into which congenitally malformed individuals have been born.

Special interest centers in families in which malformations have appeared in two or more children. Physicians who have knowledge of any such families are urged to communicate with:

Dr. Douglas P. Murphy,  
Gynecean Hospital Institute,  
University of Pennsylvania,  
Philadelphia, Pa.

### NOT THE WORK OF THEORISTS OR SOCIOLOGISTS

J. G. Crownhart in the *Wisconsin Medical Journal* says: If we may return now to the history of medicine, let us recall with some fitting pride that no statistician brought the people of this country protection against smallpox. Let us remember that the great decline in infant deaths from diphtheria was the result of the theories of no sociologist. Typhoid fever has been wiped out of our homes, but the discovery of the causation of typhoid fever can be attributed to no educator. Hospitals have had no bank holidays. Physicians have declared no strikes.

### AMERICAN MEDICAL GOLFERS PLAY IN CLEVELAND, JUNE 11

The American Medical Golfing Association will hold its twentieth annual tournament at the Mayfield Country Club in Cleveland on Monday, June 11, 1934.

Thirty-six holes of golf will be played in competition for the fifty trophies and prizes in the eight events.

Dr. Homer K. Nicoll of Chicago is president and Dr. Charles Lukens of Toledo and Dr. John W. Powers of Milwaukee are vice-presidents of the American Medical Golfing Association, which was organized in 1915 by Dr. Will Walter, Dr. Wendell Phillips and Dr. Gene Lewis, and now total 1,100 members representing every state in the union.

The Mayfield Country Club of Cleveland is described by Chairman Morgan as "probably the finest course in the district, and certainly one of the most interesting.

Many championships have been held on this course, and visiting doctors will be delighted with it in every sense of the word. It has a most beautiful club house, and we can promise a merry nineteenth hole and a dinner fit for a champion."

### APPLICATION FOR MEMBERSHIP

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write the Executive Secretary, Bill Burns, 4421 Woodward Avenue, Detroit, for an application blank. Participants in the A. M. G. A. tournament are required to furnish their home club handicap, signed by the secretary. No handicap over 25 is allowed, except in the Kickers'. No trophy is awarded a Fellow who is absent from the annual dinner.

The twentieth tournament of the American Medical Golfing Association promises to be a happy affair, attended by some 200 medical golfers from all parts of the United States.

### SEVEN YEARS OF THE WOMAN'S AUXILIARY IN ILLINOIS

The first published mention of a woman's auxiliary to the Illinois State Medical Society is found in the July, 1927, issue of the *ILLINOIS MEDICAL JOURNAL* on the pages carrying the official minutes of the Society's 77th Annual Meeting which was held in Moline, Illinois May 31, 1927. It follows:

Dr. J. T. Gregory: I wish to offer the resolution: "WHEREAS, at the meeting of the American Medical Association at St. Louis in 1922, by the sanction of the House of Delegates, there was formed the Woman's Auxiliary to the American Medical Association, "WHEREAS, at this time there are 22 states with actively functioning auxiliaries, with seven in the process of formation, "WHEREAS, in many states where the woman's auxiliaries are formed the women are assisting the medical profession in many educational, legislative and other programs; therefore be it *Resolved* that 1, The House of Delegates of the Illinois State Medical Society endorse the organization of a Woman's Auxiliary within the State of Illinois; 2, that all delegates will impress on their respective societies the importance of co-operating with the movement; 3, that the individual members of the Society be urged to tell their wives of the value of such a co-operative society to the medical profession and induce them to assist in the movement; 4, that the women be urged to start their organization at this meeting."

Dr. Gregory then offered the resolution as a motion. It was seconded by Dr. John R. Harger and carried. Later that evening Dr. William D. Chapman, Chairman of the Council and Dr. H. M. Camp, Secretary of the Society, conferred with Mrs. W. D. Chapman and Mrs. G. Henry Mundt with a view to assembling a group of doctors' wives for the purpose of considering the organization of an Auxiliary. The result of this conference is told in Mrs. Mundt's own words:

"As it was the last day of the meeting many had left but Mrs. Chapman and I succeeded in bringing about 25 ladies together. An informal meeting was



held and the doctors who were present suggested that a temporary organization be formed. As the organization was only temporary the most that could be done was to try to interest the doctors and their wives and to organize the counties which desired an auxiliary.

"The first thing that was done was to send letters to all the county presidents, secretaries and state councilors and officers asking their support and asking them to assist by suggesting names of women who might be interested in organizing. This involved the sending of more than 200 letters. The first request to assist in organizing came from Dr. Ralph Peairs of Normal (McLean County). He invited me to Bloomington to talk at a luncheon at which time an Auxiliary was formed."

Such was the beginning of women's auxiliary activity in Illinois which now has a State auxiliary with a membership of 535 women in 16 organized county auxiliaries.

Mrs. G. Henry Mundt of Chicago became the first president of the Woman's Auxiliary to the Illinois State Medical Society and served two one-year terms. While in office she organized eight county auxiliaries as well as six of the branches and the central auxiliary to the Chicago Medical Society.

From the first the Auxiliary women endeavored to enlighten themselves in regard to the problems of organized medicine. As early as this they participated in protests against the Sheppard-Towner Bill.

At this time Dr. Harold M. Camp wrote: "The Auxiliary is no longer an experiment but a proven factor for good."

Mrs. John R. Neal of Springfield became the President for 1929-30. During her administration the work of organization was continued. Mrs. Neal urged that members must at all times keep in mind that they are an auxiliary to the medical profession and that they should "make an earnest effort to cooperate with and be advised by the medical society." She pointed out that doctors' wives should keep well informed on health movements in women's clubs and she emphasized the value of their contacts and the use of the Speakers' Bureau of the Educational Committee.

Dr. F. O. Fredrickson, at that time President of the State Medical Society, wrote, "In travelling over the state visiting the various county medical societies, I have observed that the ladies are becoming more and more interested in medical affairs, particularly in the matter of organization, contact with lay groups, and legislation affecting the medical profession as well as the public health. They have formed study groups in order that they might become more familiar with these questions. They have sponsored meetings to which have been invited representatives of all women's organizations."

In 1930-31 Mrs. R. K. Packard of Chicago became president. During her term of office the final draft of By-Laws was completed and adopted. The various Standing Committees as they exist at present were formed and their definite policies and duties were outlined. Twelve counties now stood on the organized list.

In an article entitled "What Is It All About?" Mrs. Packard wrote, "It seems that the paramount objective is the preservation of health by prevention of disease and education of the public on health matters and the securing of better medical legislation. These objectives fit all communities and all classes."

Mrs. T. O. Freeman of Mattoon served as president in 1931-32. With the assistance of the various committees the President planned definite programs for the county auxiliaries which could be used at each meeting. These consisted of references to special articles in the ILLINOIS MEDICAL JOURNAL to be reported on and a number of articles on interesting medical subjects prepared by members and suggestions for entertainment.

The Illinois Medical Society having endorsed *Hygeia*, the Board requested that the counties take up the promotion and study of the magazine. A special *Hygeia* committee was formed.

The publicity chairman was requested to assemble clippings for a record book for future reference.

Mrs. Freeman wrote, "I believe the Auxiliary is an organization that should be putting on new growth always, not essentially in numbers but in the type and scope of its activities and—equally important—new things must be taken on slowly and thoughtfully."

In 1932-33 Mrs. E. W. Mueller of Chicago was President. During her term of office a record card system was established for the use of State officers. The By-Laws were published in pamphlet form and distributed to individual members. A uniform county fiscal year beginning March first was established to conform with that of the National organization.

Mrs. Mueller stated, "Our most important work is to become so well informed that we can at all times be intelligent representatives of the aims and purposes of organized medicine. In this connection it is perhaps *apropos* to suggest that we should continue to be known as the wives of our physician husbands and not let it be said that we are attempting to supplant them by permitting them to be designated merely as Auxiliary husbands."

During the present year Mrs. Solomon Jones of Danville is serving as President. The annual report of the year's work will appear in a later number of the ILLINOIS MEDICAL JOURNAL. The State Board of Directors and the county organizations have worked willingly and diligently to carry out their duties. The officers of the Illinois Medical Society have given whole hearted cooperation and the Advisory Committee has constantly guided the Auxiliary in all its undertakings. At all times the Educational Committee of the Illinois State Medical Society has given valuable service.

Ms. Jones states, "And too it seems to me that our units through the repeated statements of the county presidents are convinced as never before of the real value and merits of the auxiliary movement and more women are being found willing to assume leadership. The accumulation of seven years of pioneer service given by *us all* in promoting the ideals of the Auxiliary

is responsible for everything we have accomplished this year."

Mrs. Michael L. Mason,  
Chairman Archives Committee.

\*Material in article compiled from the files of the Auxiliary.

#### REPORT OF THE SEVENTH ANNUAL CONVENTION WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY.

Delightful entertainment, courtous hospitality and happy, interested women in pretty frocks, many of whom were novitiates, featured the seventh annual convention of the Woman's Auxiliary to the Illinois State Medical Society, which was the largest in the history of the organization.

The state president, Mrs. Solomon Jones, of Danville, had so planned her program from the first to the last, that there was never a dull moment, and attention was the watchword. If one turned her head for a brief remark to her neighbor in the next chair, she found she had lost out on some interesting discussion taking place on the convention floor, perhaps she failed to hear how Mrs. A. B. Middleton, of Pontiac, organized the counties in the second district so successfully, or why Mrs. W. M. Hamilton, of Odin, found so much fun in her work in the seventh district, that the mere telling of it kept the convention in an uproar of laughter.

At the Tuesday get-acquainted luncheon at the University Club, with Mrs. John F. Deal in charge, Mrs. E. P. Sloan of Bloomington, state program chairman, discussed her branch of the work at the special table of guests and Mrs. W. R. Cubbins, Chicago, elucidated the work of the public relations committee at another, while county presidents exchanged problems at still another table.

The convention proper opened at one-thirty P. M. Tuesday in parlor K. of Abraham Lincoln Hotel, with the president, Mrs. Jones, in the chair, and Mr. W. R. Roades of Toledo acting recording secretary in the absence of Mrs. J. A. Wolfer of Chicago, who was too ill to attend.

The invocation was given by the Rev. Dr. Hildebrand. Robert Irwin, secretary of the Chamber of Commerce, delivered an address of welcome, and Mrs. W. R. Cubbins responded delightfully for the Auxiliary. Mrs. D. J. Evans of Aurora led the singing of a welcome song, to the tune of Just a Song at Twilight:

"Just a song of welcome  
Just a song of cheer  
Just to say we're happy  
That we all are here.  
We hope to have a nice time  
Here's a greeting true  
And a hearty welcome for  
Everyone of you."

A brief but inspiring talk by the president at the large attendance, and active cooperation of the Auxiliary members, added much of interest to the opening of the first business session.

Mrs. F. P. Hammond was appointed timekeeper, and

Mrs. E. E. Hagler, parliamentarian. A Resolutions Committee composed of Mrs. Philip Kreuscher, chairman, Mrs. E. B. Colley, and Mrs. W. R. Cubbins, was named. Telegrams of regret for the illness and absence of Mrs. Wolfer, recording secretary, and Miss Jean McArthur, secretary of the Educational Committee of the Illinois State Medical Society, were sent.

Reports of officers and councilors followed, which were indeed gratifying. At this point the communications from California were read, having first been presented to the board and action approved. Convention, through Mrs. Kreuscher, framed a night letter under advisement of Dr. Ferguson—cooperating with medical men—in getting P. T. A.'s to revise methods of Summer Round Ups. Announcements by the committee chairman, Mrs. H. B. Henkel, Springfield, closed the first session at 3:00 o'clock when the ladies repaired to the Governor's Mansion for tea, and a delightful musical program composed of a local quartette, and vocal numbers by (Mrs. David J.) Louise Tiffany Evans, soprano, of Aurora, accompanied by Mr. O. E. Ehrhardt. Mrs. Evans sang an aria, "Ave Marie" from The Cross of Fire—Max Bruch, Sunlight Waltz Song—Harriet Ware, and Spring—Jensen. Mrs. O. F. Maxon assisted, by her committee, presided over the tea.

At seven o'clock the ladies assembled in formal attire at the Roof Garden of the Elks Club for a bridge dinner, Mrs. Jones presiding, and has as speakers, Dr. Philip Kreuscher, president of the State Medical Society, and Dr. R. R. Ferguson of the State Advisory Committee.

One of the points stressed by Dr. Kreuscher was that the Woman's Auxiliary should occupy first place in the club life of the members; that they should be informed about the profession, and be, therefore, able to discuss health subjects in other clubs, to which he urged women to belong, and carry matters beneficial to their husband's profession to these groups in order to offset vicious propaganda.

Dr. Ferguson proved himself most interesting and worthy of his title, adviser. He believes thoroughly in the Auxiliary, and the high-light of his advice was that a much-needed piece of work of creating funds for indigent families of physicians would be undertaken by the Woman's Auxiliary, which he predicted would enjoy a rapid growth now that so many doctors and their wives were becoming familiar with the benefits. Clever badinage was indulged in by the two speakers, which added much merriment to the occasion.

A social game of bridge followed with prizes for each table. Mrs. D. J. Lewis and Mrs. Herman Cole were in charge of this delightful evening's entertainment.

A breakfast at 8:00 o'clock Wednesday morning in Abraham Lincoln Hotel, where the downstate members of the board were hostesses to the Chicago members, marked the beginning of the busy second day of the convention.

At 9:00 A. M. the convention was called to order by the president and the highly interesting and varied work of the organized counties was given by each county president, and were illuminating as to the ad-



vancement made and the initiative shown by the respective units.

The reports of the chairmen of Standing Committees followed, each of which deserves attention in the report because of their meritorious accomplishments, but space forbids this. However, the reports of Mrs. W. R. Cubbins, Chairman of Public Relations Committee, and Mrs. J. P. Simonds, Chairman of Press and Publicity, must be especially mentioned because of the vast amount of work done in their departments. That of Mrs. Simonds in preparing a large amount of material for publication in the Illinois State Journal, relating to the Woman's Auxiliary proceedings, and the voluminous file and its accomplishments brought forth a resolution of appreciation from the convention. The outstanding work of Mrs. Cubbins has been duly recognized and much of her work has already been published in the Journal.

The proposed revision of the constitution, which has been ably handled by Mrs. E. W. Mueller, of Chicago, was read and adopted.

The corresponding secretary, Mrs. E. B. Coolley, of Danville, reported the delegates to the National Convention as follows:

Mrs. W. D. Chapman, Silvis.  
Mrs. A. E. Edison, Chicago.  
Mrs. W. R. Cubbins, Chicago.  
Mrs. G. H. Mundt, Chicago.  
Mrs. H. I. Conn, Newman.

Alternates:

Mrs. J. P. Simonds, Chicago.  
Mrs. N. M. Percy, Chicago.  
Mrs. J. A. Wolfer, Chicago.  
Mrs. A. E. Dale, Danville.  
Mrs. H. W. Grote, Bloomington.

Mrs. Kreuscher presented resolutions of regret at the passing of Dr. Center to be sent to Mrs. Center. Also resolutions regretting the illness and absence of Mrs. Wolfer and Miss McArthur were sent.

A resolution of appreciation of the courteous hospitality the ladies of Springfield had accorded us and of praise for the efficient management of all details for our business, comfort and entertainment was adopted.

A satisfactory report of a special committee's work, headed by Mrs. Lucius Cole, President-Elect, on a survey of the relation of physicians' wives to women's clubs in general, and their activities in relief work was made by Mrs. Cole, showing a vast amount of labor involved in the collection of this data.

Mrs. H. I. Conn, first vice-president, took the chair while Mrs. Jones, amid a silence that was intense, made her president's report, which was received with loud acclaim. She called attention to a booklet, fresh off the press, "The First Twelve Years, 1922-1934," compiled by the national Auxiliary Historian, Mrs. Willard Bartlett of St. Louis. Mrs. Jones quoted from this book the edifying outline of auxiliary's objective: "To extend the aims of the medical profession through the wives of doctors, to the various women's organizations which look to the advancement in health and education, to assist in entertainment at all medical conventions, to

promote acquaintanceship among doctor's families so the closest fellowship may exist."

At the close of the report Mrs. E. W. Mueller, past president, came forward, and in well chosen words presented Mrs. Jones with a President's Pin. Mrs. Jones, with her usual sincerity and charm, made a fitting response.

The report of the nominating committee was then heard, and the following ladies were declared elected in the respective offices:

President-Elect—Mrs. W. D. Chapman, Silvis.  
First Vice-Pres.—Mrs. W. R. Cubbins, Chicago.  
Second Vice-Pres.—Mrs. H. I. Conn, Newman.  
Third Vice-Pres.—Mrs. Meyer Solomon, Chicago.  
Recording Secretary—Mrs. A. B. Middleton, Pontiac.  
Treasurer—Mrs. F. P. Hammond, Chicago.  
Councilors:  
Second District—Mrs. E. E. Beatty, Pontiac.  
Fourth District—Mrs. F. E. Bollaert, East Moline.  
Fifth District—Mrs. M. B. Jelliffe, Springfield.  
Sixth District—Mrs. F. T. Brenner, Quincy.  
Ninth District—Mrs. E. W. Burroughs, Harrisburg.

Mrs. Jones then called the new president, Mrs. Lucius Cole, to the platform, and graciously tendered her the gavel with her best wishes for a splendid year. Mrs. Cole accepted the gavel in a happy manner.

In the passing of each president and her administration, each has made a distinct contribution to the progress of the Auxiliary, and helped to spread the knowledge of its value to the medical profession, each in a different way, but rarely is it given to one woman to possess such ability for hard work, such earnest enthusiasm to inspire women to do their duty, as was demonstrated by Mrs. Jones and reflected in the year's reports.

The 1934 convention closed with its crowning event, the President's luncheon in the ballroom of the Abraham Lincoln Hotel, honoring Mrs. Jones with the newly seated president, Mrs. Cole, in the chair. She introduced Dr. Walter Bierring, Pres.-Elect of the A. M. A., who was the guest speaker of the occasion, after which she presented Mrs. Jones for the President's address which is published elsewhere in this issue, of the Illinois State Journal. At her conclusion Mrs. H. I. Conn made the presentation to Mrs. Jones of a beautiful silver platter, the gift of her board of directors. Her response, feelingly given, expressed her gratitude and pride in her board who had stood by so loyally throughout the year.

Thus was brought to a close the convention proper, much of the success of which was due to the Springfield members of the state board, Mrs. H. B. Henkel, Mrs. John R. Neal, with Mrs. M. B. Jelliffe of Springfield, chairman of the entertainment committee.

The ladies of the convention attended en masse the President's Dinner and Dance of the Illinois State Medical Society, at 7:00 o'clock in the ballroom of the Abraham Lincoln Hotel, where sons and daughters of the profession gave added charm and beauty to the occasion which was presided over by Dr. John R. Neal

and addressed by Dr. Kreuscher, the retiring president, and Governor Henry Horner.

Respectfully submitted,

Mrs. E. B. Coolley,  
Retiring Corresponding Secretary.

#### WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

Closing Message of State President, Mrs. Solomon Jones

We have come to the close of the year that marks the Seventh Anniversary of the Woman's Auxiliary to the Illinois State Medical Society.

Before we turn another page in our history it would seem the opportune time to pause and consider for a moment how far have we traveled and in which direction are we going.

During these years of pioneer service the doctors who have known us best have believed in and trusted us. We have endeavored to keep that faith by counseling Miss Jean McArthur, Executive Secretary of the Educational Committee and through the endorsement of all plans by our Advisory Committee.

Our hearts were lightened early last fall when Dr. Philip H. Kreuscher, President of the Illinois State Medical Society, gave out this statement: "I wish that I might say to the women of Chicago and the entire state of Illinois, that I feel the Woman's Auxiliary has passed the formative stage; the period of experimentation is over. You now have a real job to perform. Complete co-operation and unquestionable loyalty are essential. The wife of every doctor should enlist in this undertaking."

Some weeks later, Dr. R. R. Ferguson, Chairman of our Advisory Committee, in addressing the Auxiliary to the Chicago Medical Society, frankly stated that "County Medical Societies need us," and he gave many reasons why. This address, under the title "Medical Economics" appeared in the February issue of the State Journal, and has proven one of the most convincing arguments ever given. Our National President, after having read Dr. Ferguson's Article, requested sufficient number of reprints that she might send a copy to each of her State Presidents and members of her board. We cheerfully complied with this request.

From many sections of the state there is evidence of a growing interest in the Auxiliary movement. We are encouraged to believe, as the clouds of the depression continue to lift, that many county societies are planning to invite our organization. Then and then only will Illinois be able to march up to the head of the procession with the other thirty-nine Auxiliary states and the District of Columbia, who are working heart and soul in the interest of humanity and organized medicine.

To you, the doctors' wives who are here from unorganized counties, we invite your thoughtful consideration. May I repeat once again that I have supreme confidence in the physician's wife wherever she is. She is a woman bountifully endowed with common sense. She is, by virtue of her position, usually a leader in her community, in such national agencies as the General Federation of Women's Clubs, The Congress of

Parents and Teachers, and the Auxiliary to the American Legion. Because of this experience her judgment can be relied upon. Once she becomes familiar with the policies and plans of our Auxiliary she will be quick to lead her husband to a sympathetic understanding and together they will take their rightful place as leaders in all health activities, giving the right interpretation in the interest of scientific medicine.

To you, the members of my State Board, for your wise counsel and for the hours and into days you have given in planning and directing the departments of work;

To you, my county presidents, and your boards, for your loyal devotion and the promotion of the prescribed policies; and to you, all members of the Auxiliary, who have given so generously of your time and talents, and for your moral and active support, I want you to know I as your president, have a very deep appreciation for this service. As individuals you may say with me in the words of Edward Everett Hale,

"I am only one,  
But still I am one,  
I cannot do everything,  
But still I can do something,  
And because I cannot do everything,  
I will not refuse to do the something  
That I can do."

To you, the incoming administration, we of the past wish to leave with you the sentiment that has been our guiding star, and one which we have come to think of as Our Creed.

That I might so interpret the thought that it will be a personal message—a personal appeal is my supreme wish at this moment—and with this I close the chapter of 1933 and 1934: "One great bond we have in common, one ideal that we hold highest and best among our earthly ones—the bond, that of participating in the practice of the noblest of profession; the ideal, that of using our service wisely in the interest of that profession and mankind, proving ourselves true helpmates, both individually and collectively. Collectively we are a strong force that may be of use in a quiet way, to the medical profession.

We, who know the unselfishness of these men of ours, can do much to enlighten a frequently misinformed public about the true character of medical work and its plans for public health and welfare. We can, in a non-aggressive way, offset much of the wicked propaganda that is constantly kept before an ignorant and deluded populace.

"With this in mind, let us use our time wisely, make our plans carefully and thank God for the opportunity to be of service to this profession of which we are an honored part."

#### PHYSICAL THERAPY SESSION TO BE HELD IN PHILADELPHIA

The thirteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held in Philadelphia at the Bellevue Stratford, September 10, 11, 12, 13, 1934.

This year's session will be especially noteworthy be-



cause of the excellent program which has been arranged. Outstanding clinicians and teachers will present the results of the newer researches in the field emphasizing short wave therapy, hyperpyrexia, light therapy, remedial exercise, massage and other interesting subjects.

On Wednesday evening, September 12th, a joint session will be held with the Philadelphia County Medical Society.

Special features will be the scientific and technical exhibits and the small group conferences. The latter have been arranged for Tuesday morning. Every specialty of medicine and surgery will be represented. The technical application of physical measures will be demonstrated and the fundamentals emphasized. The general sessions will be taken up with symposia on cancer, arthritis, poliomyelitis, industrial surgery, etc.

Friday, September 14, has been set aside for hospital teaching clinics which will be held in the leading institutions of Philadelphia.

You should plan now to attend this very important medical gathering. Physicians and their technicians, properly vouched for, are eligible to attend.

Send for preliminary program. Address American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

#### STATE HEALTH DEPARTMENT HAS AVAILABLE CONVALESCENT POLIOMYELITIS SERUM

The following information as furnished us by the Director of Public Health, Springfield, Illinois.

With the possibility of a considerable wave of poliomyelitis in Illinois during the next three months I should like to remind the medical profession of the State that convalescent serum may be obtained free of cost from the State Department of Public Health at Springfield. The serum may be obtained at any time, night or day, in response to requests by wire or otherwise. It will facilitate matters if requests for convalescent serum are directed to the Division of Laboratories of the State Department of Public Health.

The history of poliomyelitis in Illinois suggests that prevalence will be greater this season than in any previous year since 1931. This is indicated by the past epidemic behavior of the disease. Weather conditions likewise appear to favor greater prevalence. In California, Arizona and Texas, moreover, case reports have increased to a marked degree during recent weeks. It is not unusual for epidemic waves to begin in the West and travel eastward as the season advances.

Convalescent serum treatment appears to be decidedly advantageous especially when used during the early stages of the disease. The experience in Illinois with 89 serum-treated patients and 100 non-serum treated patients is very striking. Diagnosis of the 89 treated patients was definitely established beyond any doubt.

Complete recovery took place in 82 per cent of the serum treated and in only 22 per cent of the non-serum treated patients. Severe paralysis occurred in none of the serum treated patients but did occur in 22 per cent of the untreated. Moderately severe paralysis occurred in 4.5 per cent of the treated and in 41.0 per cent of the untreated patients. Mild paralysis was observed in 10

per cent of both groups. There was 3.5 per cent mortality in the treated and 5 per cent in the untreated group.

An ample supply of poliomyelitis convalescent serum to meet reasonable demands is on hand for immediate needs. Physicians are requested not to ask for serum for anticipated needs, however.

Convalescent serum may be obtained at cost of production from the convalescent serum center, Michael Reese Hospital, Chicago.

Specially qualified medical officers are available from the State Department of Public Health for consultation in poliomyelitis.

Early diagnosis and treatment with convalescent serum prior to the onset of paralysis may be emphasized as of outstanding importance. A special bulletin that describes the symptoms of early poliomyelitis and the technique of treatment is available from the Department.

#### AMEBIASIS: LABORATORY DIAGNOSIS

J. J. MOORE, M. D., F. A. C. P.

CHICAGO

The laboratory diagnosis of amebiasis plays a most important role in the determination of its treatment and in the control of its dissemination. No matter how the disease is spread, the cysts must first come from the intestinal tract of an infected individual.

The procedure usually followed for diagnosis is to have the individual to be examined report to the laboratory, where a stool is passed and examined immediately; first, in normal salt solution for motile organisms and cysts; second, in an iodine preparation for cysts. Not less than two smears are examined in each solution. A culture is then made upon liver extract agar to which have been added dilute blood serum and rice powder. This culture is examined after twenty-four and forty-eight hours. Such detailed technique permits the parasitologist to examine a maximum of not more than ten individuals daily.

The Chicago Health Department requires that a food-handler, found to be a carrier or active case and given treatment for the condition, must have four negative examinations one week apart followed by another after a period of one month, before he may be permitted to return to his employment. In addition, he must then be examined once a month for the next four months as an extra precaution.

Dr. G. W. McCoy, Medical Director, U. S. Public Health Service, says: "There is no need for isolation of the clinical cases of amebic dysentery beyond such isolation as may be necessary for the benefit of the patient. There is no need for the isolation of carriers." "Control of the spread of infection by the detection of carriers and their exclusion from food-handling groups does not appear to be practicable on a large scale.

It has been found by Spector and Buky that the cysts of *Entameba histolytica*, when dried on the fingers, were killed in from five to ten minutes.

Not everything that moves in a stool is *Entameba histolytica*. Four non-pathogenic amebae: *Entameba coli*, *Endolimax mana*, *Iodameba buetschlii* and *Dienta-*

meba fragilis with their cysts, and all the various flagellates, must be differentiated. (Experience in parasitology is a necessity for this identification.)

None of the leading parasitologists has isolated bacteria or amebae from the blood stream, nor does any recommend vaccines as a therapeutic agent.

#### THE OBJECTS OF THE MEDICAL COMMISSION DEPARTMENT OF AMERICAN LEGION STATE OF ILLINOIS ARE:

1. To effect close contact between the American Legion and the Medical Profession through the Veterans' Service Committee of the Illinois State Medical Society.

2. To study carefully all problems of mutual interest to the veteran and organized medicine.

3. To assist Service Officers from a medical standpoint, in proving Service connected disabilities, in order that the cases of deserving veterans may be made compensable.

4. To guide the health activities and welfare work of the Legion in such a way as to prevent misunderstanding between the Legion and the County Medical Societies in their respective communities.

5. (a) That we are in accord with the present law and regulations that provide hospital treatment and outpatient treatment for all Service connected disability cases of all war veterans with honorable discharge; and that we further recommend that the same treatment be available for all war veterans unable to pay.

(b) That we recommend that all acute critically ill cases of all war veterans with honorable discharge be treated in the community in which they arise by an approved physician of the veteran's choice, in home or local hospital, and that a reasonable fee be paid by the Government to the physician in charge and hospital, upon the presentation of the bill, O. K'd by the President of the County Medical Society in which the emergency occurred.

(c) That we recommend that all war time veterans with honorable discharge and unable to pay for treatment who are suffering with chronic constitutional diseases and injuries be afforded Government hospitalization upon the request of the veteran or his conservator.

#### EFFECTS OF THYMUS EXTRACT INJECTIONS ON GROWTH AND DEVELOPMENT

The premier public presentation by the Philadelphia Institute for Medical Research showing the effects of thymus extract injections on animal heredity was made under the auspices of the Philadelphia County Medical Society at its stated scientific meeting on Monday evening, April 30, 1934.

In order to ascertain the function of the thymus gland, white rats of a standard strain (Wistar) have been injected with an extract of the thymus gland prepared by Dr. Adolph M. Hanson of Faribault, Minnesota. Injections have been continued through succeeding generations and the effects of injection have been noted on both the original rats and their offspring to the fifth generation.

The third and subsequent generations of thymus in-

jected animals, as judged from more than two hundred survivors, showed a surprising rapidity of growth and development. In the third generation the average birth weight of the offspring was 15 per cent and in the fifth generation 20 per cent heavier than those born of animals not injected with thymus extract, which will hereafter be referred to as controls. The ears opened on the first and second day in the third generation, on the first day in the fourth and fifth generation, as compared with 2½ to 4 days in the controls. The teeth erupted in less than 48 hours in the third generation, in less than 24 hours in the fourth and fifth generations as compared with nine to ten days in the controls. The eyes opened on the fourth to the sixth day in the third and fourth generations and on the second to the third day in the fifth generation, as compared with fourteen to seventeen days in the controls. The animals were covered with fur by the fourth to the sixth day in the third generation, the third to the fourth day in the fourth generation, and by the second to third day in the fifth generation, as compared with fourteen to seventeen days in the controls.

The growth curves of the third, fourth and fifth generations of thymus injected rats compared with controls revealed marked acceleration with the maximum difference about the sixteenth day and approached each other after the sixtieth day. For considerable periods of time, test animals have been almost double the weight of the controls.

The time of the onset of adolescence and maturity have also been advanced in a striking manner. Thus in the fifth generation adolescence has been attained in the male from the fourth to the eighteenth day as compared with the normal, forty to ninety days, and in the female from the twentieth to the twenty-fifth day instead of the seventieth to the ninetieth day. In addition to precocious adolescence, fertility has also been increased.

The treated animals appear unusually docile and contented, are normally active and alert. Aside from precocious growth and development, they appear normal in every respect.

This investigation has been carried on through a sufficient length of time to establish the increased acceleration of growth and development beyond question of doubt. The effects of injections when treatments are continued through four or five generations are much more marked in the offspring of the second, third and fourth generations than those resulting from continuous injection for the same length of time confined to parents alone. It is evident, therefore, that thymus extract has accelerated the rate of growth and development, hastened the onset of adolescence and increased fertility. It is of extraordinary interest that the effects of thymus extract become progressively more pronounced as treatment is continued through each succeeding generation, a principle which may be found to have broad application in the field of biology.

"For years the two sexes have raced for supremacy. Now they have settled down to neck and neck."



## Original Articles

### THE DOCTOR AND HIS COMMUNITY

PHILIP H. KREUSCHER, M. D.

President, Illinois State Medical Society

CHICAGO

More than fifty years ago a young graduate of the University of Pennsylvania came to a small village in Kansas to practice medicine. He came unannounced and alone. There were no paved roads, not a paved street in the town. There was no hospital, no research laboratory. Without present-day facilities but with a thorough knowledge of the fundamentals of clinical medicine and surgery and with a sincere desire to serve, he began his ministrations to the sick and needy of the community. Time went on. There were difficulties and many unusual demands, but to him no hour was too late, no night too dark and no roads impassable. Love of service and devotion to duty made it possible for this pioneer to carry on. He prospered. Prosperity, however, as I soon learned, had not come without sacrifices and not without hardships.

I had just finished my internship and had become well accustomed to the conveniences of a large city hospital when I happened into the community of this country physician. It was with considerable reluctance that late one stormy night I accepted his invitation to accompany him on one of his night trips. A call had come for the village doctor. A child desperately ill many miles across the river needed his help and needed it at once. We started. Soon I realized that this was to be a death-defying journey. A Kansas storm was raging and our vehicle bumped up and down over terrible roads. We forded swollen streams and plowed through mud up to the hubs of the wheels. The storm raged on. I was having my first experience with a country doctor. Even then, as we traveled along, I wondered why men studied medicine and whether it was all worth while. Finally, we arrived at the farm house, the home of our patient. The child was desperately ill. Frantic parents had awaited our arrival for hours. Calmly but quickly my doctor friend sized up the situation. In a few minutes an intubation set and several instruments were prepared. By the light of a kerosene lamp and

with a kitchen as an operating room, the doctor carefully, deftly and with skill that aroused my profound admiration, performed his duty. The life of the child was saved.

It was dawn when we began our journey homeward. The way seemed less perilous in daylight and soon we were discussing various problems of the country doctor—the hazards of a country practice, fees for service, competition in the practice of medicine as it existed at that time and many other subjects. I was amazed at the philosophy of this country physician. Nothing seemed too great for him. He had gone through experiences of this kind before and little did he seem to mind them. He had that day been internist, fracture specialist, eye specialist, pediatrician, obstetrician and surgeon and considered it just another day with the usual duties incident to a large country practice. I never think back upon that night without a spirit of gratitude for this experience, for the realization it brought home to me of the unselfish devotion to duty, yes, the unsung heroism of the pioneer doctor.

Many years later it was my sorrow to attend the last rites of this physician. The people of the village and the whole countryside came to mourn. This man had for many years been their doctor and best friend. He had not only cured their ills but taken upon himself the burden of their troubles. He was the chief man among them, the one most respected and most beloved, and at all times an integral part of their lives. Impartial counselor, self-sacrificing healer, unselfish friend—all this he had been to them and thus they honored him. They were inconsolable.

This true narrative of the devotion and self-sacrifice of a man of medicine and the appreciative response of his community is not an unfamiliar one. My friend lived in the era which has just passed, but I bring his story to you in the hope that some of his spirit, the spirit of true community interest and sincere devotion, may be implanted in the hearts of our present-day physicians. It is with such memories clearly before me and with the hope that something of his philosophy may enter into the solution of the problems that confront his modern successor that I have chosen as my topic the old relationship he understood so well, that of a doctor to his community.

*The Relationship to the Community.* Since time immemorial, long before codes were the order of the day, the physician practiced under

Presidential Address, Illinois State Medical Society, Eighty-fourth Annual Meeting, Springfield, May 15-17, 1934.

the Hippocratic Code. Contained in this oath are all the elements of our creed of today. In it is outlined in unmistakable terms our present-day conception of the relationship of the doctor to his patient. The day a physician comes into a community he does so with the avowed intention of ministering to the best of his ability to the physical ills of his people. This is the basis for the unwritten contract into which he enters with his community. This is true whether he locates in a remote rural district or in a large metropolitan center. This is likewise true whether he starts as a general practitioner or as a specialist. As a highly trained and educated man his standing among his people is measured by his ability to serve in his professional capacity. All else is secondary. His prowess as a billiard wizard or a golf expert does not enter into the contract.

*What Does the Doctor Owe His Community?*

If a man is to be pre-eminently successful, the people at once must become cognizant of his ability and willingness to serve. Combined with these two qualities must be that of adaptability. Medicine being a part of the social order in a community, the physician must invariably adapt himself to the altering demands of his time. Through individual effort medicine has been developed and administered for many centuries. In the last twenty-five years the rapid progress of science and invention and the outstanding influence of the World War have greatly changed the order of things. These influences have changed us from our splendid isolation and a country of small towns to a nation of urban dwellers. The struggle of nations and individuals for existence has brought with it a great change in ideals. Our profession, living under a code promulgated in 430 B. C. and rewritten in 1847, finds itself face to face with the more or less justifiable criticism of not being in a position to meet today's problems. The ability of the doctor to adjust himself to new demands is his first duty to his community.

Unless we as doctors meet reasonable demands of our people, we can only expect that new adjustments will be forced upon us from without. Most of the ills and problems which beset the profession today and about which we talk so much are those of our own making. Gone are the days when a silk hat and a swallow-tailed coat impressed the public. The day is past when a casual examination of the tongue and a pre-

scription for sulphur and molasses will satisfy the patient. Only too often some of our numbers still adhere to the methods of our fathers and grandfathers in medicine. Patients have learned that a thorough examination by modern methods precedes the diagnosis and treatment. Too often one hears patients say that they have never been really examined even though they have been seen by a number of physicians. If a doctor fails to give his patient reasonable attention and proper examination, if he fails by such examination and clinical research to determine "what is the matter with the patient," then it is no wonder that the confidence he should enjoy disappears. The press, the radio and our own efforts in educating the public in matters of health have made it entirely necessary that the doctors of the community be prepared to give the patients that which they have a right to expect. Too often even today a prescription for aspirin or the application of a mustard plaster is substituted for a proper examination.

When a doctor has betrayed the trust of his community, then and only then do his erstwhile patients find their way into the dispensaries or clinics and too often into the hands of the irregular practitioner. We legislate against the "cults" and against those who do not practice medicine along the line as we understand the practice, but we forget that it is because of our neglect of duty that these various practitioners exist. The "cultist" is the illegitimate son of the medical profession. By our ignorance and procrastination we have given him birth and by our persistent indifference we are giving him a livelihood. The doctor invariably gets the first chance, and it is only after we fail that our patients leave us.

The doctor must be prepared to meet the ever-changing methods of diagnosis and treatment. The advantages offered in the various medical societies and clinical demonstrations given in medical centers are the sources of information which every man should seek. No other medium is so helpful as is the free and open discussion of medical matters in our county, district and state societies. When we fail to take advantage of this type of instruction, we fail at once to meet our obligation. Would you wish to employ an attorney to defend you in an important trial who for many years had not kept up with the latest court decisions or with the latest methods



of procedure? You would not. Then we should not expect a patient to be satisfied with the services of a physician who has not kept pace with modern methods. Osler spoke so truly when he said: "A physician who does not use books or journals, who does not need a library, soon sinks to the level of the cross-roads prescribed not alone in practice but in those mercenary feelings and habits which characterize a trade."

If a man is true to the trust the community has placed in him, he must be imbued with a spirit of cooperative fellowship with his people not only in affairs medical but in their civic and social affairs as well. It is only in this way that he can become an integral part of his community.

There are other relationships, however, which the physician must cultivate and principally among them is the spirit of fellowship with the other doctors in the community. There still are those who see no value in medical organization nor do they see the benefits derived from such fellowship. There has always been and there still lives the type of man who, as a "lone wolf," plays a lone hand. He does not stop to think that a "lone wolf" never exists long. The man who fails thus to fraternize is usually not honest with himself nor with his patients. One who refuses to consult with his ethical neighbor is either a snob or a coward. A very influential man in my community once asked, "Do you know why Dr. X is such a good doctor?" I was interested. He said, "Because he has so many good doctor friends with whom he consults." It is not always best that doctors should agree. The value of consultation is always enhanced by a frank interchange of views. Too often when the doctors agree the patients die.

We are organized for the purpose of promoting the art and science of medicine, to organize the medical profession and safeguard its interests, to protect the health of the community and to crystallize public opinion in regard to medical problems. Some of us have been accused of being medical politicians. If I am a politician for my efforts in attempting to carry on these vital principles, then I should wish to remain one. The drone who stands idly by and partakes of the "honey" of the workers and cries "Why doesn't the medical society do something?" is not only an obstructionist but a menace to medical organization. It is not always easy to give up time and energy to promote the welfare of an

organization for the common good. In our scheme of things with few paid officers it becomes necessary that some of our numbers at least give all possible time and put forth every effort in the interest of medicine.

Whalen in a recent editorial wrote as follows:

"To abstain from medical activities under present menacing conditions is a wasteful squandering of that valuable asset of good teamwork at the very time when collaboration is absolutely vital. One does not change horses in the middle of the stream. When out in mid-ocean in a storm you do not see anybody shoving off in a rowboat by himself to save passenger money. Present conditions make mass action imperative and mass assaults can move mountains. Few, if any, can deny the need for maintenance by the medical profession of the strongest possible organization—strong in numbers, militant in spirit and untiring in its concerted efforts to protect the interests of the medical profession and in so doing the interests of the community."

There are those in and out of our profession who would have us feel that we as physicians have failed to keep faith with our community in that we have not solved medical economic problems. Two American presidents and as many Congresses with all the brains and machinery available to them have wrestled with our national economic problems without bringing to an end the greatest calamity the world has ever seen. Now the federal government is attempting by various regulations to bring emergency relief to the indigent sick. The medical men of this state and the entire land are responding admirably. Once more we have shown that medicine, as a part of the social structure of the community, can adapt itself in times of emergency to any reasonable proposition. There are those who think that by accepting the federal challenge we have stepped inside the threshold of state medicine. I find it difficult to understand the mental attitude of those who cry "Peace! Peace!" when there is no peace, and yet let us not be too hasty to call "Wolf! Wolf!" when there is no wolf. Those who are pessimistic should gain some solace from a significant statement in one of the arid paragraphs of Regulation Number 7, in which the federal government insists that whenever possible the traditional relationship of physician to patient must be maintained. I am convinced that by doing our part the medical profession has strengthened its position with its people and with its government.

The angles of the medical economic problem are so far-reaching and so varied that no one community or state can cope with more than its

individual or local problems. All manners of solutions have been offered. Insurance schemes by the score, plans for low-cost clinics, plans for state and federal regulations have been promulgated with monotonous regularity in the medical journals and in the lay press. I am reminded of a homely rime I learned as a boy:

All the cats consulted,  
And what was it about?  
How to catch a little mouse  
Running in and out.

There has been too much palaver about medical economics and too little real action. While all the various agencies and groups are putting forth schemes and arriving nowhere, "our patient" is showing no signs of recovery. There have been too many diagnostic methods, too much exhaustive research, without arriving at a true diagnosis. The time for diagnosis and treatment is at hand. This work is the prerogative of medical men who, by unselfish interest, aptitude, training and courage, are fitted to cope with these problems. This is a job for the thinking men of the state and national medical organization, who have the welfare of all the doctors and all the patients at heart. Medical problems have never been solved by non-medical minds. This is the day when courageous men of medicine under unvacillating leadership must go forth and do battle. The utter failure of that self-appointed group of individuals with high-cost methods and low-cost ideals is too fresh in our memories to warrant further comment.

*What Does the Community Expect of the Doctor?* The public looks to us for medical care and leadership in medicine. If this is not forthcoming, then they will appeal to the state and federal agencies. The medical profession has never failed. In this economic exigency we will not falter. Present-day civilization is made possible by medical knowledge and the future of civilization depends upon the influence of medicine. Organized medicine still represents the medical profession, the unwarranted statements of some of our critics notwithstanding. Never before has there been more need for wise leadership. This leadership must begin with the physician in his own community. He is the man who can mold the opinion of his people, realizing full well that public opinion and sentiment

will ultimately have a voice in the solution of our problems.

The people look to us to get them well and keep them well. Often they expect the doctor to do the impossible and frequently we have permitted ourselves to be forced into pitfalls from which it was difficult to recover. Ours is a peculiar people. We go to extremes in all things. Unreasonable public demand created specialization in medicine to the nth degree. Now that same public opinion cries for despecialization. The safe and sane path seems difficult to find. Individualism must be preserved in medicine, but that individualism must submerge itself for the common good (Donald Guthrie). Public opinion has created in our government a trend toward socialization for several decades, but it is for us to assist in the formation of public opinion so that the people may know wherein lie their best interests.

Recently the editor of the Journal of the American Medical Association wrote:

"Those who know and understand the nature of medical care... are inclined to believe that the last stand of the citizen in maintaining his status as an individual human being is going to be in times of disease. A man at work in a gang along the side of the road, a soldier who is a fragment of humanity in a regiment of cannon fodder, a robot in one of our great industrial plants who spends minute after minute, day after day, performing the same mechanical functions, has but little opportunity to feel that he is an individual human being. But when a splinter of steel flies into his eye, when his shoulder begins to ache with the stress of the pick and shovel... then he seems to prefer a physician who will look at his eye not as an eye belonging to the state but as an eye belonging to John Smith. He prefers a physician who will treat... without any relationship to the state's responsibility... He finds himself in his relationship to the state exactly as he finds himself in his relationship to an employer who wants from his labor all the work he can get, but who wants to pay to his labor the least that can be paid. Those who have watched the tender care of the state for the public in times of stress realize that the sympathy, the understanding and the humanity of the state employees toward the unfortunate is not always manifested with what might be called humanism. Those who have read in "Little Man, What Now?" the experience of the German laborer who was trying to get from his government something in the way of benefits under the insurance act in Germany will find a startling example of the way in which bureaucratic employees under most circumstances concern themselves with the problem of the individual sick man."

The community also expects of the doctor an



honest leadership along economic lines. People expect that the doctor will adapt himself to the economic status of his patients. The moral precepts of the ethical code can be maintained. They are not incompatible with the recognition of and urgent demand for the more satisfying economic status which can only be brought about by the business of medicine. (Edgerton Crispin.) Medicine must create within its own ranks a system which the presentday type of practice and opinion does not possess. There is a business in medicine which the profession has not recognized. (Rexwald Brown.)

I remember well as a boy when our doctor accepted commodities of all kinds for his services. Doctors are notoriously poor business men, but is it not possible for us by proper adjustment, as is being done in all other lines of business, to enter into a satisfactory and equitable relationship with our patients, especially during this era of emergency? The great majority of our patients do not wish to be pauperized. The patient who paid his doctor bills but who is now unable to meet the fees will in many instances again become a paying patient.

#### *What Does the Community Owe the Doctor?*

Galen expressed a great truth when he stated "He cures most successfully in whom the people have the greatest confidence." When we have served faithfully and have not betrayed its confidence, then the community truly owes the physician a real debt of gratitude. We have every reason to expect cooperation and allegiance from those we have served. I have long realized that appreciation and confidence come to us from our people in direct ratio with the number of units of energy we put forth in our service. Little does the community comprehend of our efforts, our sacrifices. They do not realize that the doctors of the country, according to a recent survey, do a million dollars worth of charity a day. Such a gift to the public entails sacrifices from every one. The returns from this survey indicate that the average American doctor contributes about 25% of his time to medical service for which under existing conditions he can expect no compensation. Combine this with the additional one-quarter of his time for which he charges but cannot collect and it will be seen that about half of the physician's working hours are given over to free work.

A greater measure of appreciation would be ours if every one understood the spirit of that splendid eulogy of the physician by Robert Louis Stevenson:

"There are men and classes of men who stand above the common herd; the soldier, the sailor and the shepherd not infrequently; the artist rarely, rarer still the clergyman; the physician almost as a rule.

"He is the flower of our civilization; and when that stage of man is done with and only to be remembered, to be marveled at in history, he will be thought to have shared as little as any in the defects of the period and most notably exhibited the virtues of the race.

"Generosity he has such as is possible to those who practice an art, never those who drive a trade; discretion, tested by one hundred secrets; tact, tried in a thousand embarrassments; and what is of more importance herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room and often enough—healing."

Neglect by the patient of genuine appreciation of these sentiments and failure on our part always to recognize our sacred obligations have widened the breach between the doctor and his community. I am fully convinced that the solution to many of our problems lies in the restoration of that absolute confidence of the patient in his physician. Restore fully in its broadest sense the devotion and traditional relationship of the patient to his physician, and I will show you a new medical profession with light hearts and uplifted heads, oblivious of all obstacles, carrying on with the spirit of true community interest symbolized in the life of my old friend, the Kansas doctor.

As I look backward upon the long history of the arts and sciences I seem to see a great procession of famous and heroic figures. One of them stands out not only as a witness of his own authentic achievements but also as a symbol of the traditions, ideals and aims of the profession which he represents; a man inspired by true devotion, lavish of love and sacrifice for the welfare of his community; one supreme in achievement whose deeds will never be forgotten—the Doctor.

#### REFERENCES

- Charles J. Whalen: *Ill. M. J.*, July, 1933.
- Donald Guthrie: *The Penn. M. J.*, Oct., 1933.
- Morris Fishbein: *J. A. M. A.*, March 3, 1934.
- Edgerton Crispin: *Proceedings of the Staff Meetings of the Mayo Clinic*, Oct. 13, 1932.
- Rexwald Brown: *The Western J. of Surg., Obs. & Gyn.*, May, 1933.
- Sir Berkeley Moynihan: *John B. Murphy Oration in Surgery*, 1920.

## AMEBIASIS—DIAGNOSIS AND TREATMENT

JAMES A. CONNER, M. D.

CHICAGO

The presence of an apparent widespread infestation of the population of the United States with *entameba histolytica*, which certainly was not suspected, has been rather forcibly brought to the attention of the medical profession. It has been estimated that approximately five per cent. of the population are carriers. This infestation has been called amebic dysentery, which does not describe the true situation. The majority of cases do not have dysentery. Colonel Craig, whose experience in this particular field is wide, advances the term "amebiasis." Amebiasis then includes the various manifestations of infestation with *entameba histolytica*.

The importance of an accurate diagnosis assumes large proportions when surgery is contemplated, because if a patient is subjected to surgery, especially an appendectomy, the mortality rate is markedly increased. The reason for the danger is due to the fact that the amebae invade the submucosa, muscularis and even the lymphatics, damaging these areas by the cytolytic substance produced by the amebae. When these areas are invaded by the normal inhabitants of the bowel, weak spots sometimes develop which rupture and cause peritonitis. If the operator should be unfortunate enough to traumatize such an area during an appendectomy, peritonitis may easily follow.

The diversity of symptoms makes their classification difficult. To illustrate this particular point, the different types of cases of amebiasis are divided into four general groups:

1. No symptoms—so-called carriers.
2. Mild cases—vague gastro-intestinal complaints.
3. Acute onset—frequent stools, prostration of patient.
4. Advanced and chronic.

Under ordinary circumstances the first group will not be recognized unless an examination of feces reveals the presence of cysts. It is quite uncommon in our experience to find motile forms in this type of case. These patients may become a menace to the population if they are in a position to pollute either water or food. Further,

such a patient is in potential danger of an hepatic abscess.

The second group are the patients that may complain of alternating periods of frequent stools and constipation. The stools do not commonly contain blood or pus in either phase. Close questioning often reveals the presence of a low back pain, anorexia, feeling of lassitude, and vague abdominal pain which does not readily localize. The physician in his search for an explanation of the symptoms will not be able to make a positive diagnosis until the cysts or amebae are found in the feces.

It is surprising how many patients in this group have demonstrable ulcers in the rectum and sigmoid. Proctoscopic examination of this group is quite important. With the proctoscope in place and an ulcer under observation it is possible in many instances to obtain motile amebae.

The third group are those that have an acute onset characterized by frequent stools which usually contain blood, pus and excess mucus. The fact that the patient has diarrhea is sufficient to call to the physician's attention the possibility of a dysentery of some variety. It then remains for him to determine the etiology. Bacillary and amebic infections may occur simultaneously. The entire colon may be tender to palpation.

Patients in the fourth group are often diagnosed erroneously as ulcerative colitis of a non-specific type. These patients have many relapses characterized by frequent stools. Blood, pus, mucus, and shreds of mucous membrane are found in the stools which are not formed. Microscopic examination of the shreds of mucous membrane may reveal amebae and, histologically, there is no invasion of tissue by round cells and polymorphonuclear cells. The colon of these patients at autopsy is markedly thickened, the mucous membrane is almost entirely denuded and some parts of the colon show areas which are very thin. The condition of the colon explains in a large measure the reason for the frequency and type of stools. The colon can be palpated throughout its entire length. Patients in this group become invalids and remain so unless they are carefully and energetically treated.

The conditions to be considered and ruled out in abdominal pains are numerous when a diagnosis of amebiasis is considered. Appendicitis is probably the most common surgical problem



confused with amebiasis. A careful consideration of the course of events, physical findings and observation will aid in the diagnosis. Other causes of acute abdominal pain such as mesenteric thrombosis, malignancy of the bowel, impactions, peptic ulcer, intestinal obstruction, pancreatitis, kidney stone, salpingitis, and biliary tract disease must be ruled out.

The diarrheas, such as bacillary dysentery, tuberculosis of the bowel, typhoid and paratyphoid demand in addition careful laboratory examination.

The diagnosis of amebiasis is dependent upon the following factors: stool examination, proctoscopic examination, careful thorough physical examination, and close scrutiny of the history.

The stool examination should consist of two parts: first, the physician should note the character of the stool for consistency, color, amount and presence of gross blood, pus or mucus. The remainder—that is, direct examination for motile forms and cysts should be done by a competent technician. It is uncommon to find motile forms in a formed stool. The diarrhea stools should be used for examination for motile forms. If the physician is qualified there is no reason why he should not do direct examinations. Select a small portion of blood-stained mucus, mount in normal saline under optimum conditions and examine diligently under the microscope. It is necessary to be quite thorough in this examination and spend plenty of time. In the selection of a specimen for cysts it is wise to take the sample from the portion which has been in intimate contact with the bowel wall. To do this, select the outside of the stool for samples. This material is mixed with compound solution of iodine which makes the structure of the cysts easy to identify. It is, of course, necessary to be able to differentiate between the cysts of *Entameba coli*, *Entameba histolytica*, *Endolimax nana*, and *Entameba buetschlii*. Most authorities seem to feel that a culture is of considerable value. If the facilities to make a stained smear are available then this should be used to check the other methods. The Journal A. M. A., 102, 371-372, 1934, gives a good discussion of the laboratory technique.

The value of a proctoscopic examination has not been sufficiently emphasized in the past. Many patients that are in the first and second group have demonstrable ulcers in the rectum

and sigmoid. The ulcers are characteristically punched out with undermined edges. They vary in size from a millimeter to 2 or 3 centimeters. The bowel wall appears edematous and more red than normal. Usually the mucus is profuse. When the proctoscope is introduced the mucosa is likely to bleed easily. If the operator removes some of the blood and mucus from an ulcer with a capillary pipette and examines it immediately on a warm slide, motile amebae may be seen in a large percentage of cases. It has been the policy at the Municipal Contagious Disease Hospital to repeat the proctoscopic examination following each course of treatment to observe the changes in the appearance of the bowel wall. The wall has resumed a normal pink color, the glassy edematous appearance has disappeared and in the majority of cases the ulcers have healed.

The treatment for amebiasis up to and including the present time (March 1, 1934) reminds one of the suggested remedies for pertussis. Many drugs have been advanced but prove inadequate upon fair trial. Emetin and its salts have been looked upon as the standard for some time. Due to the toxicity of emetin, the drug should be used with considerable caution. Emetin may have a harmful effect upon the myocardium, causing myocarditis, and also upon nerve tissues, causing neuritis. According to Craig and others who have had wide experience in the treatment of amebiasis, emetin should be reserved for cases having liver complications or only used to control the acute dysentery for the first three days.

Many arsenicals have been proposed and used. Stovarsol, carbarsone, acetarsone, and treparsol are the common arsenicals. Our experience with arsenicals has been limited to carbarsone. This drug was selected because of its low toxicity.

Another group of drugs is the halogenated oxyquinoline compounds. Vioform, yatren, chiniofon, and anayodin are representatives of this group. These drugs have a low toxicity and because of that are relatively safe. We have used vioform and anayodin extensively.

Enemas of quinine and various other alkaloïds have been used by others. Enemas should be used with caution in acute cases because of the danger of causing perforation of the bowel.

The preparation of a case for proctoscopic examination is quite important and does not apply to an acute case. Two enemas are given to

cleanse the bowel—preferably on admission and about two hours before examination. The patient should be instructed to empty the bowel thoroughly. It is not necessary to have a special rectal table to do a proctoscopic examination because this can be done quite satisfactorily in the knee-chest position on any table.

The diet for those acutely ill should be bland and soft. As soon as the frequent stools subside, then a full diet can be allowed. In fact, the patients seem to do better on a full diet.

The dosages of the drugs as used at the Municipal Contagious Disease Hospital are as follows:

Carbarsone:  $\frac{1}{4}$  gram t.i.d. for 10 days, which may be increased in some cases to  $\frac{1}{2}$  gram t.i.d. without danger. Check urine twice weekly for albumin, casts and red cells.

Vioform: 1 gram t.i.d. for 10 days.

Anayodin: 100 pills total dose. 4 pills t.i.d. for adults over an 8 day period. In some cases the number of stools will be increased, but this subsides in 3 or 4 days. Children can be given the full number of pills, but should require a longer time interval.

During the administration of these drugs it is advisable to examine the urine twice weekly. A rest period of five days following a course of treatment should be allowed before stool examinations are made. The criterion for release by the Chicago Board of Health is four negative stools at weekly intervals followed by monthly examinations for four months for all food handlers.

During the entire period of observation, the patient should be closely watched for involvement of the liver.

From Municipal Contagious Disease Hospital, Board of Health, Chicago.

Read before the Englewood-Stockyards Branch of the Chicago Medical Society, February 8, 1934.

## THE TREATMENT OF HYPOTENSION IN ARTERIOSCLEROSIS

DON C. SUTTON, M. S., M. D., AND HAROLD C. LUETH, Ph. D., M. D.

CHICAGO

Our interest, as a whole, is centered upon the hypertension of arteriosclerosis. The fundamental fact that a narrowed arteriosclerotic artery may be unable to carry sufficient nutrition to a part, is quite generally overlooked. This is compensated for by an increase in blood pressure.

Many instances of alleged local vascular spasm may be accounted for by a diminished flow of blood through a narrowed artery, resulting in a localized anemia. Thus, a narrowed artery may carry sufficient blood for nutrition but an inadequate amount for function. Function may be disturbed in widely varied degrees. Temporary aphasias or paralyses in cerebral arteriosclerosis, angina in coronary sclerosis and intermittent claudication in sclerosis of the peripheral arteries, are of this type. The rate of flow through such arteries may be increased by increased blood pressure, increased heart rate or dilatation of the vascular bed distal to the partial occlusion.

It has been noted frequently, among the large number of arteriosclerotic cases observed in the Cardiac Follow-up Clinic at the Cook County Hospital, that even moderate lowering of the arterial tension often brings out evidence of these localized anemias. Because of these facts, a small group of cases, all intelligent private patients, has been given ephedrine sulphate for the purpose of increasing the blood pressure. As shown by Miller,<sup>1</sup> Roundtree and Brown<sup>2</sup>, Hess,<sup>3</sup> Middleton and Chen,<sup>4</sup> ephedrine sulphate raises blood pressure when administered by mouth and this increase may be maintained for days by continued administration of the drug.

The following group shows the effect of such therapy upon patients suffering with vertigo:

Mr. B., a retired executive seventy years of age, gave a history of two attacks of cerebellar vertigo about one year ago and since that time he has had, almost daily, moderate attacks. Physical examination revealed marked peripheral arteriosclerosis, but was otherwise negative. The blood pressure was 130/100 m.m. Hg. He was given ephedrine sulphate, grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$ , twice daily. Within a week all vertigo had disappeared and the blood pressure had risen to 150/100 m.m. Hg. Recent discontinuance of the therapy resulted in a return of the vertigo and also two short attacks of diplopia. Upon resuming the use of the ephedrine all the symptoms promptly disappeared.

Dr. M., a physician sixty-five years of age, complained of vertigo and weakness. Physical examination was essentially negative. His blood pressure was 120/80 m.m. Hg. Ephedrine Sulphate grain  $\frac{3}{8}$  twice daily, resulted in complete disappearance of the vertigo and weakness. The blood pressure rose to 140/80 m.m. Hg.

Mr. S., a broker sixty years of age, was first seen two years ago when he was complaining of mild precordial pain after exercise. These attacks disappeared entirely with the taking of a theobromine compound. June 1, upon arising, he was seized with an attack of vertigo so severe that he was unable to leave his bed. When seen by another physician he was found to have



a pulse rate of forty-eight. Later an electrocardiogram showed a prolonged P.R. interval, 0.24 sec. He continued to have vertigo in the early morning when his pulse was slower than any other time of the day. His blood pressure was 140/105 m.m. Hg. Immediate improvement followed the administration of ephedrine sulphate, grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$ , once daily. The pulse rate gradually increased to 72 to 80 but without increase in the blood pressure. In this case the increased heart rate alone apparently relieved a relative cerebral anemia.

Cases with more advanced cerebral lesions:

Mr. S. F. P., a buyer now sixty-eight years of age, has been under observation the past five years because of arteriosclerosis with cardiac symptoms. The blood pressure at the beginning was 170/100 m.m. Hg. Two years ago he complained of attacks of vertigo and nystagmus. His blood pressure at this time was 150/90 m.m. Hg. These attacks were entirely relieved when theobromine was given. On Jan. 21, 1932, he became greatly agitated and confused, in which state he was admitted to the hospital. There was no evidence of muscle involvement except for a "thickness of the tongue." His blood pressure was 130/90 m.m. Hg. As his confusion subsided, a moderate aphasia was noted and a continuance of the difficulty with enunciation, both of which were increased by fatigue and moderate use of alcohol. This condition was continued until February when ephedrine sulphate, grain  $\frac{3}{8}$ , was administered orally, twice daily. The blood pressure gradually rose to a systolic of 150 to 170 m.m. Hg. Constant improvement was noted and in a few days all cerebral symptoms disappeared. In August, 1932, he complained of weakness and trembling in the knees. These symptoms apparently were the effect of the ephedrine, which was discontinued. The last of September, 1932, the cerebral symptoms reappeared and ephedrine sulphate, grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$ , was given twice daily. This was continued until Jan. 1, 1933, when he complained of generalized abdominal pain for a period of three weeks. The discontinuance of the ephedrine sulphate had no effect upon this pain so its use has been resumed. During the past year his general circulatory condition has been much improved.

Mr. G. W., a teacher seventy-one years of age, on Oct. 3, 1932, complained of headache and vertigo, followed rapidly by aphasia and word deafness to a degree making conversation impossible. In 1925 his blood pressure was 170/100 m.m. Hg. Since then it has ranged from 170 to 190 systolic. During the first few hours following the above attack the blood pressure fell to 130/90 m.m. Hg. Twelve hours after the onset he was given ephedrine sulphate, grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$ . Within an hour the aphasia had sufficiently improved to obtain a fair history of the attack. The following morning, twelve hours later, the condition was the same as that preceding the initial dose. One hour later, after a second dose, he showed the marked improvement. From this time on it was given every six hours. The blood pressure ranged from 145 to 160 m.m. Hg. systolic. The cerebral lesion advanced slowly until, by the fourth day, there was a complete right-

sided hemiplegia. The aphasia increased slightly for three days and then improvement occurred rapidly. There was no coma at any time. This was a case of apparently slowly forming thrombosis and although there was immediate evidence of increased cerebral circulation, there can be no conclusions drawn as to whether the extent of the lesion was greatly influenced by the increase in blood pressure. He died suddenly of a coronary thrombosis upon the seventeenth day of his illness.

Miss M., a spinster sixty-eight years of age, has had frequent attacks of angina pectoris of effort. Examination showed marked generalized arteriosclerosis and moderate increase in the size of the left ventricle. No edema was present. During the preceding three weeks the attacks of pain had increased in frequency and followed much less exertion. When seen, Aug. 1, 1932, she was having frequent attacks while lying in bed. The blood pressure was 150/100 m.m. Hg. Ephedrine grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$  caused marked improvement in the pain when the blood pressure was raised to 170/105 m.m. Hg. She has continued to improve on this therapy plus theobromine.

Mrs. K., a housewife fifty-five years of age, complained of fatigue. Examination was essentially negative except for a blood pressure of 110/80. She was given ephedrine sulphate, grain  $\frac{3}{8}$  and Amytal grain  $\frac{1}{2}$ , for one week. This caused no increase in blood pressure and the patient complained so greatly of "nervousness" that treatment had to be discontinued.

#### DISCUSSION

These observations have been recorded for two reasons. First, it is considered important to call attention to the fact that a fall of blood pressure during the course of hypertension may result in much more serious symptoms than those likely to occur during a maintained high blood pressure. While in this series the blood pressures have been low, marked symptoms have been frequently observed in other cases, when the pressure was 190 to 200 systolic, having been before the symptoms, 30 to 40 m.m. Hg. higher. The most frequent vascular accident in arteriosclerosis is the formation of an intra-vascular thrombus. This is more likely to occur with a slowing of the blood stream in a narrowed, sclerotic artery. Rupture of an arteriosclerotic artery is comparatively rare. With these facts in mind, attempts made to artificially lower blood pressure may be questioned on the ground of increasing the dangers of serious complications.

Second, in this series of observations ephedrine sulphate has been found efficacious in raising blood pressure and in this manner relieving the symptoms resulting from the increased pressure. The use of small doses of amyral have prevented

the unpleasant symptoms that often result from the continued administration of ephedrine alone, namely, weakness, trembling and gastro-intestinal distress.

#### BIBLIOGRAPHY

1. T. G. Miller: The Treatment of Low Blood Pressure with Special Reference to Use of Ephedrine. *Atl. Med. J.* 29: 748-752, 1926.
2. Rountree, L. G.; Brown, G. E.: Ephedrine Therapy in Addison's Disease. *Endocrinology.* 10: 301-316, 1926.
3. Middleton, W. S., and Chen, K. K.: Ephedrine, a Clinical Study. *Arch. Int. Med.* 39: 385-403, 1927.
4. Hess, F. O.: Ueber Ephedrine, *Muench. Med. Wehnschr.* 73: 1691, 1926.

From the Medical Department of Northwestern University Medical School and the Division of Medicine, Cook County Hospital.

Eli Lilly & Sons Co. have kindly furnished the Ephedrine and Amytal for this study.

30 North Michigan Avenue.

### HYPERGLYCEMIC STATES AND INSULIN RESISTANCE

With Case Report of Sclerosis of Pancreas with Persistent Glycemia of Over 300 mg.

GEORGE A. WILTRAKIS, M. D.

ELGIN, ILLINOIS

Diminished response to insulin is encountered in diabetics as a result of complicating pathological conditions of other structures. Seemingly, in spite of increasing dosages of insulin, the blood sugar remains at a high level and glycosuria persists. The usual amounts of insulin have no effect and large amounts of insulin but little.

In reviewing the literature, one finds reports of extremely high blood sugar determinations—some ten to fifteen times the normal sugar content of the blood. Curtis and Dixon<sup>1</sup> report a case with a blood sugar of 1620 mg.; Foster<sup>2</sup> reports a sugar of 1260 mg.; Haines and Davis<sup>3</sup> report three cases with 1120 mg., 1080 mg., and 1056 mg., respectively; all with recovery. Pitfield<sup>4</sup> reports a case with 1700 mg., and Joslin<sup>5</sup> one of 1370 mg. These two cases died. All of these patients, however, were diabetics in acute comatose condition with acute disturbances.

In diabetics, pathological conditions of the pancreas or other structures may cause a persistent hyperglycemia and glycosuria. The case listed below is that of a patient who had a persistent glycemia of 300 to 580 mg. for five months. Repeated daily injections of a hundred units of

insulin over a period of a month produced no apparent sugar reduction.

This patient was a married white female of thirty years of age who had been committed to the Elgin State Hospital in March, 1931, because of alcoholic excesses. Her familial history was negative. Her total education was limited to a schooling of three months duration. Physical examination revealed a fairly well developed white female weighing 148 pounds with no abnormalities except absent knee jerks. Mental examination failed to reveal any definite psychotic manifestations. Laboratory tests revealed a negative urine, a four plus blood Wassermann and a negative spinal fluid. On May 31, 1931, she was discharged as sane.

Ten months later (June 14, 1932) she was returned, as a voluntary patient, because she had lost forty pounds in weight and was unable to find any work. Her mental re-examination was negative; physical examination revealed a marked pyorrhea, scattered crepitant rales in both apices, blood pressure of 110/70, pulse of 80, and weight of 102 pounds. Laboratory examination revealed a positive blood Wassermann and a negative spinal fluid. Binet-Simon test showed a mental age of twelve years. She was again diagnosed without psychosis.

At the tubercular ward she ran a low grade afternoon temperature elevation and was classified as a case of incipient pulmonary tuberculosis. This was later confirmed by finding tubercle bacilli in her sputum. Her temperature elevation continued from July to November, 1932.

In October, 1932, this patient was sent to the Hospital ward because of a glycosuria and a blood sugar of 413.6 mg. per 100 c. c. of blood (as determined by Benedict's modification of Folin—Wu). During her hospital stay on a low carbohydrate diet she had a daily glycosuria varying from twenty to eighty grams a day and a glycemia from 300 to 566 mg. in spite of gradually increasing dosage of insulin. The patient revealed no physical weakness or distress from her hyperglycemia. At one time on a milk diet of 48 ounces a day or a sugar intake of 86.4 grams she ran a glycemia of 500 mg. and a glycosuria of 22.5 grams. During the month of February, 1933, she received a hundred units of insulin daily without apparent change in blood and urinary sugar. Because of this lack of response, the findings of tuberculosis, and the positive serology, the possibility of tuberculosis or syphilis of the pancreas was considered.

On March 16, 1933, she developed a right basal broncho-pneumonia and symptoms of acidosis. Death occurred four days later.

Post mortem revealed a bilateral upper lobe tuberculosis with left apical cavitation and a right basal bronchopneumonia. The pancreas, weighing 55 grams, was small, white, firm, and sclerotic. Sectioning, performed with difficulty, revealed numerous small angular calcified concretions varying from 1 to 3 m. m. in size. Microscopic examination revealed replacement of the pancreas by connective tissue. No islands of Langerhans were detected in repeated sections. No tubercles were found in or about the pancreas. The



pathologist was unable to state whether the sclerosis was due to tuberculosis or syphilis of the pancreas.

TABLE SHOWING GLYCEMIA AND GLYCOSURIA

Date:	Blood Sugar (Mg. per 100 c.c.)	Total Grams of Sugar in Urine:	Units of Insulin Daily Dosage at
10/ 4/32	413.6	20.0	
10/ 8/32	428.4	20.0	
10/11/32	.....	....	30
11/ 4/32	463.4	32.0	"
11/ 5/32	.....	....	55
11/11/32	375.0	8.0	"
11/12/32	.....	....	45
11/15/32	436.4	64.0	"
11/23/32	422.4	78.0	"
11/29/32	491.9	60.0	"
12/ 7/32	389.6	50.0	"
12/15/32	441.1	50.0	"
12/23/32	545.2	60.0	"
12/30/32	352.9	70.0	"
1/ 6/33	566.0	76.0	"
1/14/33	.....	....	75
1/17/33	555.5	70.0	"
1/25/33	107.1	84.0	"
1/31/33	461.5	70.0	"
2/12/33	.....	....	100
2/14/33	545.4	64.0	"
2/17/33	285.6	52.0	"
2/22/33	400.0	76.0	"
2/24/33	337.0	45.0	"
3/ 1/33	553.0	35.0	"
3/ 6/33	480.1	70.0	"
3/ 9/33	500.0	22.5	"
3/14/33	517.8	34.5	"
3/16/33	300.0	15.0	

This was a persistent hyperglycemic state for a period of five months that failed to show the normal response to insulin. In reviewing the literature one finds scattered reports of cases with varying etiological factors which have produced abnormal insulin response in diabetics. By insulin resistance or cases refractory to insulin, is meant cases that do not respond to insulin. In the usual diabetic, one unit of insulin will utilize approximately two grams of sugar. In the refractory cases one unit may utilize only one gram or half a gram or less. Joslin states that insulin refractory cases do not exist, they are only relatively refractory, i. e., patients will respond by reduction of blood sugar if sufficient amount of insulin is administered but they do not respond in the normal way.

If an unusually large amount of insulin is required by a patient to produce a reduction of the blood sugar, factors complicating diabetes should be searched for. Root,<sup>6</sup> in his article, gives a very comprehensive classification of insulin refractory cases which is incorporated in this outline of etiological factors.

1. *In liver pathology*, as hypertrophic cirrhosis, chronic hepatic insufficiency, pigmentary liver

and luetic hepatitis, unusual amounts may be required. This may be due to disturbance in the glycogen storage and utilization.

2. *Endocrine dysfunctions* play an important role. Abnormalities of thyroid, pituitary, and adrenals may interfere with the action of insulin.

Numerous articles have described the inter-relationship of the thyroid and pancreas. Hyperthyroidism reduces glycogen content of the liver by making it over-responsive in discharging sugar and also by disturbing glycogen storage of the liver. Mild diabetics may become severe diabetics with onset of hyperthyroidism.

Diabetics with hyperpituitarism may require high doses of insulin. It may be that the hypersecretion of pituitary gland with a consequent unusual increase of blood sugar, may place an excess demand on the pancreas for insulin. This in turn may result in pathological conditions of the pancreas. Cushing and Davidoff, in a report of 100 cases of acromegaly, found glycosuria in 25 cases. In 11 out of 44 postmortems, of these cases that died in diabetic coma, changes were observed in the pancreas. The relationship of pituitary secretion to insulin was shown by Houssay and Magenta,<sup>7</sup> who found hypophysectomized dogs more sensitive to insulin. This may be a factor in explaining our recent hypoglycemic coma in the case of E. B., a patient at this hospital, who became comatose after an injection of five units of insulin and showed a mild hypoglycemic reaction after one unit of insulin. Her hypophysis roentgenologically is about twice the normal size. She may be a case of hypopituitarism and for this reason hypersensitive to insulin.

The antagonism between the adrenal and insulin has been repeatedly shown. Epinephrine produces a rise of the blood sugar curve. Thus, in a diabetic with hyperadrenalism, a hyperglycemic state may be produced.

3. *Pancreatic changes* are mentioned infrequently in the literature. Hemochromatosis or bronze diabetes with hemosiderin deposits in the pancreas may lead to insulin refractory cases. Allan,<sup>8</sup> reports an interesting case that required 500 units to make the urine sugar free. New growths such as carcinoma, either primary or secondary, may lead to insulin resistance. It is interesting to note that adenomas of the islands of Langerhans have been reported with hypoglycemic states due to excess secretion of insulin.

Howland, Campbell, and Maltby report an adenoma of island of Langerhans which was removed surgically with resultant relief from hypoglycemic attacks. Joslin in his discussion of insulin resistant cases does not mention tuberculosis or syphilis of the pancreas. Tuberculosis

850 units of insulin day after day and who for two days before his death used 1600 units of insulin daily. Our case of sclerosis of the pancreas with calcified concretions would be grouped under this heading of pancreatic disease. Atheromatosis with hyaline changes in the pancreas should also be included.

4. *Diseases of the skin* are associated with insulin resistance. The skin probably plays a more important role in carbohydrate metabolism than has been thought. Extensive sunburn as well as pruritis of old age, are examples.

5. *Infections and acidosis* diminish the effect of insulin. Considerable interesting research has been and is being done in an attempt to explain why diabetics with infections show increase of blood sugar associated with insulin resistance.

6. *Cardiac decompensation and renal pathology* may be associated with diminished response to insulin in diabetics. The impaired absorption and diminished nephritic function may account for this in part.

7. *Lack of muscle tone* as seen in arthritic and bedridden patients, reduces effect of insulin.

Thus, there is a very extensive group of causative factors which contributes or influences response to insulin. The action of insulin is not simple. The entire metabolism of glucose, from its ingestion, storage as glycogen, and utilization, is involved in the response to insulin. All factors affecting carbohydrate metabolism play a role and changes in any portion of this complex mechanism may vary the action of insulin. The possibility of co-enzymes and insulin complements have been described by Glassberg, Somogyi, and Taussig,<sup>11</sup> and by Brugsch and Horsters. Phosphorus metabolism has been shown to be linked to glucose metabolism.

*Summary:* An interesting case of a diabetic refractory to insulin with persistent hyperglycemia and glycosuria, is reported.

In cases that do not normally respond to insulin, other complicating factors should be sought. Briefly, they may be listed as cases of diabetes with 1. liver pathology; 2. endocrine dysfunctions, chiefly hyperactivity of thyroid, pituitary, and adrenal; 3. pancreatic disease including carcinoma, hemochromatosis or bronze diabetes, sclerosis, and atheromatosis with hyaline change of pancreas; 4. disease of the skin; 5. infections and acidosis; 6. cardiac decompensa-



Fig. 1. Roentgenogram of Sectioned Sclerotic Pancreas to Reveal Multiple Calcified Concretions.

of the pancreas is rare. Saphir,<sup>9</sup> in 100 post mortems of tubercular patients, found only four cases with tubercles, while Valzah,<sup>10</sup> found one case in 200 and Kudrewetzky nine in a series of 137 tubercular patients. Joslin does mention in detail, however, a case of sclerosis of the pancreas associated with cirrhosis of the liver that required



tion and renal pathology, and lastly, 7. lack of muscle tone.

Appreciation is expressed, at this time, to the State Psychopathic Laboratories and especially to Mr. DeLester Sackett, for the cooperation in the repeated blood and urinary sugar determinations.

#### BIBLIOGRAPHY

1. Curtis and Dixon: *J. A. M. A.* **90**: 1115-1116, 1928.
2. Foster, N. B.: *J. A. M. A.* **84**: 719-722, 1925.
3. Haines, C. J., and Davis, R.: *J. A. M. A.* **99**: 24-25, 1932.
4. Pitfield, R. L.: *Med. Jr. and Rec.* **120**: 433-434, 1924.
5. Joslin, E. P.: Text-book "The Treatment of Diabetes Mellitus," Lea and Febiger, Philadelphia, 1923.
6. Root, H. F.: *New England J. Med.*, **201**: 201-206, 1929.
7. Houssay and Magenta: *Rev. Assoc. Med. Argent.* **37**: 389, 1924.
8. Allan: *Med. Clin. N. Amer.* **12**: 1677-1687, 1929.
9. Saphir, O.: *Arch. Path.* **7**: 1026-1039, 1929.
10. Valzah, S. L.: *Amer. Rev. Tuberc.* **9**: 409-417, 1924.
11. Glassberg, Somagryi, and Taussig: *Arch. of Int. Med.* **40**: 676-685, 1927.
12. John, H. J.: Hyperthyroidism with diabetes: *J. A. M. A.* **97**: 1708-1709, 1931.
13. Smith and Seibel: Tumors of island of Langerhans and hypoglycemia: *Am. J. Path.* **7**: 723-739, 1931.
14. Lawrence, R. D.: Studies of insulin resistant diabetes: *Quart. Jr. of Med.* **21**: 359-369, 1928.

### THE STATUS OF MEDICINE UNDER THE NEW DEAL!

PETER T. SWANISH, Ph. D.,  
CHICAGO

It is a matter of observation that this country passed through an extraordinary year. The chain of events which has followed since last March was certainly an unpredictable quantity a year ago. The cancellation by the government of its own contracts to pay in gold or its equivalent, vesting the President with broad powers over the fortunes of citizens, governmental price-fixation, gigantic public works, to say nothing of minor incidents such as repeal of the 18th Amendment and recognition of various degrees of socialism—such a series baffles any effort to arrange them in order of importance nor is it desirable to do so since no one can be separated from the entire totality of events. In what manner and how is professional medicine concerned with this episodic progress of what many persons of diverse political leanings prefer to call a revolution?

The capacity of human beings to produce goods and services is in a large measure a function of the organism in a state of physical equilibrium. Disturbance in physical equilibrium or health, precludes the possibility of physical exertion of human beings in production and likewise the re-

ceipt of income, for the ultimate source of income is the creation of utilities. The role of the physician is to prevent and adjust frictions which work to produce physical disability. It follows, therefore, the relationship between the addition of labor to production and the functions of the physician is a more or less reciprocal one. This suggests that in a rational scale of consumption, preventive medicine would follow food, clothing and shelter in rank, and hence, more of society's income would be directed against medical service and less against things. In reality the situation in this respect is exactly reversed and for several reasons.

In the first place, relatively less income is spent for medical services because in a civilization of things such as ours, the style of life is cut out of the countless contraptions without which few men would be happy. We are in a sense drowned in a bewildering complex of possessions which modern industry offers as an answer to the simple question: what shall we eat, what shall we drink and wherewithal shall we be clothed? The acquisition and the use of the means to this end, whether for good or bad, engrosses us in such unswerving concentration that life for the most part becomes a nervous scramble for things. This set of external factors determines the pattern of our social scale of consumption and the character of the economic system. The result is that things as such push medical service to and beyond the margin which separates economic from free goods. A distorted sense of values produces an irrational scale of consumption in which medical service competes with trifles and trinkets at the margin.

Economic depressions only intensify the irrationality of the consumption scale and accentuate the distortions in our scale of values. The idea suggested here is contained in the common query: "Why pay for medical services when others can be found to do this for us?"

At a time when incomes are falling, individuals who under normal circumstances consult the private practitioner turn to institutions supplying the needed services gratuitously. Once people "reap where they have not sown," they are certain to return, and having browsed in the verdant pastures of free service, are likely to come back after the original cause has long disappeared. The product of this is that sooner or

later gratuitous service comes to be regarded in the nature of a right. Custom follows from the facts of experience that give rise to it. In the long run this distorted sense of right germinates and blossoms out into institutions supplying free services. The practice is first rationalized, then institutionalized.

By this process the shift in the demand for service from the private practitioner to the free clinic becomes permanent. Whatever value the rules and regulations of the FERA may have, they do suggest the more or less permanent institutionalization of fees over a wide area of medical practice. Once you accept the premise that a dollar in the pocket is worth two on the books, you may ultimately have to reconcile yourselves to a dollar on the books that never reaches the pocket.

Since the physician is a factor in production and the practice of medicine represents a division of labor in the broad sense, the body of "emergency" legislation—the term "emergency" is applied to qualify it under the constitution—included within the multiplicity of alphabetical combinations created since last March, touches the personal interest of the professional man or woman as producer, consumer, debtor, creditor and as a member of the "taxable order." More important than self-interest of the individual is the effect of this welter of legislation upon the short and long-time interests of the profession through the creation of conditions and patterns of behavior which strike at the very root of private practice.

In this legislation, there is explicitly and implicitly a fusion of two objectives: (a) recovery, (b) the readjustment and reconstruction of our national life upon a new basis. The means toward this end are implied in the statement that

"unless industry is *socialized* by its private owners and managers so that essential industries are operated under public obligations appropriate to the public interest in them, the advance of *political* control over private is inevitable."

The term *socialized* itself suggests the redistribution of income by laying the axe to the profit-theory of business. In the redistribution, the farmer and the wage-worker are supposed to get a larger share. The corollary of this is that other classes will get less for "the more there is of mine, the less there is of yours." Section (g)

of the rules and regulations of the FERA definitely indicates that over a large area of medical practice the physician is to get less all things equal. The term *socialized* also points to the subordination of private property to the demands of the New Dealers' plans for a new social scaffolding and new social controls.

The "permanent readjustment of our national life" presupposes an increasing control over economic life by the government, some degree of socialism. The substance of politics is coercion and if we invest government with the power to control business we substitute coercion for freedom by definition. Now control is always from the top, and it is clear, on the theory that to the "victor belong the spoils," that the personnel of the party in power will manipulate the controls. "To scholars who become politicians, the comic role is usually assigned; they have to be the good conscience of state policy."

Political control means control by men chosen primarily with respect to their ability to get along with men and with respect to their acceptability to controlling political groups with the result that instead of a direct economic solution of any problem we usually get a compromise that is the product of the pressure of conflicting economic interests. Politics moves in a twilight-zone of half-measures, compromises and consideration for human weaknesses. It speaks the language of the "pork-barrel" and the clenched fist. For example, centuries of trial and error the world over with a double monetary standard shows that bimetallism simply cannot be made to work. Yet, in the face of this experience, western senators are demanding the adoption of a bimetallic standard. Again, the history of price fixing schemes since Diocletian, 301 A. D., teaches that such schemes ultimately fail, and it also shows that price-fixing schemes encourage low-efficiency producers, thus lowering real incomes; that such schemes pile up public debts, create class antagonisms by killing one class of producers with kindness at the expense of another, or at the expense of consumers and bring budding bureaucracy into flower. In spite of experience and the truism that it is as impossible to turn back human experience as it is to turn time backwards, the NIRA has launched us out upon a policy of price-fixation. This, it seems to me, merely confirms the observation suggested,



namely, that a politician is one who invariably views the public good strictly in terms of his own interests, and secondly, of the interests of certain cliques, groups or party factions to which he adheres.

To speak glibly about planning is to assume that the job can be solved by simply snatching another combination out of the alphabet. Suppose we do shift from a system of unrestricted individual enterprise over to an economy of controlled cooperation, and then begin by planning a price level! What are the dimensions of this problem alone, to say nothing of the countless others that it breeds? If you plan a price level, you must control the monetary unit, the volume and the velocity of credit, its allocation between long and short-term uses, between light and heavy industry; you must control the volume of production, the volume of investment in industry, and to control the volume of investment you must tell persons how much they shall save and what they shall do with their savings. Also the application of science to machinery and methods could not continue uncontrolled. Either you must forbid science to invent or you must control the use of savings in putting inventions to work so as to avoid unnecessarily destroying the value of either those new savings or the property represented by former savings which invention would render obsolete. Finally, you must control consumption and to control consumption you must control population.

And let it be noted in passing that once medicine is subsumed within the political and economic philosophy of the planners, it will be subordinated to the political and economic exigencies of those at the top who control. Even the pursuit of scientific investigation in Soviet Russia is not entirely divorced from political dogmas which demand that research be converted to the task of solving immediate practical problems—a belly philosophy.

One who observes the same old “spoils system” at work can only be skeptical about any plan, however Utopian its phrases, which depends upon the American political machinery to administer. There is, furthermore, a real solid basis for scepticism in the record of governmental control so far. Here is the record.

Throughout the post-war period the Federal Reserve Board tried to manage gold for us so as

to keep prices down with the result that our continued export surplus took almost half the world's stock of gold. In 1927, we decided we had too much gold and the rest of the world too little and so the Federal Reserve Board reduced rates so low that \$500 million of gold went abroad in search of better pay. The low rates broke the dam and a flood of money poured into the stock market. Instead of stiff rates the Board pleaded with the most speculative people in the world to stop speculating. A. C. Miller, the only economist on the board, called this the boldest operation ever attempted by the Reserve system, an operation which resulted in one of the costliest errors committed by it or any other system in the last seventy-five years. It is probably due to this experiment together with attempts to prevent liquidation once the crises came that we owe the exceptional severity of the depression.

Now it is proposed to combat the depression by forced credit expansion: to cure the evil by the very means that brought it about. Even if forced credit expansion were a *desideratum*, which it is not, and for the reasons mentioned, the expansion of credit is paralyzed by the guarantee provision in the Glass-Steagall Bill. Under the terms of this law all banks must prepare for examination as to their liquidity prior to the taking force of the act this year. Bankers must, consequently, pay particular attention to liquidity and this precludes all efforts at credit expansion and even works in the direction of credit restriction. This action tends to force a further fall in world prices and so create the very difficulties that are feared.

When it became apparent in 1930 that our foreign debtors could pay only in goods, Congress raised tariffs, placing a laurel upon a 15th century economic philosophy.

Orderly marketing imposed upon the taxpayers by politicians in 1929 cost us a billion in cash and the loss of our wheat customers to Argentina, Australia and Canada. We are now on our way to hand Egypt, India, and China a \$175 million cotton market.

The “planners” propose to increase buying power by destroying income—by contraction of production. The nation is to be enriched by destruction of its wealth thereby insuring a lower

standard of living all around and the certainty of tax-supported medicine.

Employment is to be created by measures that ultimately create unemployment.

Debtors who cannot pay old debts are being urged to borrow themselves out of debt. It has been assumed that the debt situation is such an important cause of the depression that a reduction of the debt burden would automatically revive business. This idea has no foundation whatsoever. Debt, a concomitant of capitalism, was not the major cause of the breakdown of prosperity and a wiping out or a general reduction of debts could do little to revive business. "The same conditions make it unprofitable for an industry to operate if it is heavily in debt, make it unprofitable to operate if it has no debt. The automobile industry has relatively speaking, no debt, yet, it has been running at less than half-capacity for several years. Of the leading steel companies, scarcely one has a significant amount of debt, yet steel is one of the most depressed of our industries." On the other hand, agriculture, one of the chief sufferers of the debt burden, has not reduced the amount of its output or volume of employment—except forced contraction of output by government.

Inflation is proposed to make this country prosperous despite the fact that it impoverished Germany, Poland and Austria.

*This is the record, and a left-handed record it is, of achievements not wanted.*

Obviously the left hand knows not what the right hand is doing. "We have gone through the looking-glass into Wonderland where plus and minus are the same." We are trying to stimulate business and prices while frustrating private business with talk of rubber dollars and doing away with profits. We are trying to bring back prosperity by paralyzing efforts to bring it back: "by raising ourselves by our own bootstraps while cutting the straps."

1673 Pratt Blvd.

### METHYL CHLORIDE POISONING

ALBERT VAN DER KLOOT, M. D.,  
CHICAGO

Ever since methyl chloride has been used in refrigerators occasional cases of poisoning have occurred. H. M. Baker in 1927 described the symptoms of a group of cases occurring in em-

ployees working with methyl chloride. In 1929 Kegel and associates described a series of cases following the leakage of gas from central refrigerating systems. These cases were of a severe type with high mortality and gave a different picture from those of a more gradual poisoning. The case here described is especially interesting in its close resemblance to epidemic encephalitis, so much so, that when it occurred the family of the patient immediately suspected sleeping sickness.

H. H., 23 years old, a refrigerator repairman, returned home from work and immediately fell asleep. He could be aroused with difficulty to eat and then continued to sleep all of the next day when he was first examined. While being questioned he would momentarily arouse, but fell asleep between questions. The chief complaints were dizziness and difficulty of vision. If he attempted to get up he staggered around as if intoxicated. He could not co-ordinate hand and arm movements and could not drink a glass of water without spilling the contents. His vision was blurred. He could see somewhat more distinctly with one eye covered, but even then could not read two inch type. There was a slight drooping of the lids. Eyes reacted to light and accommodation. Reflexes were normal and no sensory disturbances would be detected. Temperature taken at four-hour intervals was always normal. Urine and blood findings were normal.

The somnolence and visual symptoms continued unabated for two weeks. During this time he slept except when aroused for feedings. He had to be fed. At this time he developed an occasional spell of restlessness lasting for a few hours. After three weeks he began to read large print and a week later his vision was about normal, although his eyes tired very quickly. By the end of five weeks all symptoms had cleared up. As far as could be determined no permanent injury resulted.

This man stated that he had repaired refrigerators most of which contained methyl chloride or sulphur dioxide. He was always rather careful with the sulphur dioxide because of the irritation to the upper respiratory tract. On the other hand along with most of the employees he was rather indifferent to methyl chloride fumes as the effect of inhaling this gas was much like that of a large dose of alcohol. Because of the lack of unpleasant odor it was not easily detected. A gas that gives such serious nervous symptoms could do severe damage and at times may leave serious residual damage.

The picture of somnolence with visual symptoms suggests encephalitis, but the history of occupation with persistent normal temperature plus the good recovery makes the diagnosis of



methyl chloride poisoning very certain. The treatment is not specific. Forced fluids plus alkalies are suggested.

*Summary:* A case of methyl chloride poisoning resembling epidemic encephalitis is described. People working with this gas should be warned of these toxic symptoms and should be better protected. Finally, a more safe and satisfactory refrigerant should be used. Several of these are now gradually replacing the older types.

5 South Wabash Avenue.

## EVENTRATION

### Case Report with Review of Literature

FRANK M. DRY, M. D.

Attending Staff, Lake View Hospital  
CHICAGO

Eventration, while a rather rare anomaly, is classified as a monstrosity of the newborn and has heretofore been reported in the literature.

In a review of same, I found only one other case report resembling the pathology in the case herewith reported. During my review I found that the classification of monstrosities is a rather extensive group, so I have endeavored to ally my report as closely as possible to the types coming under the heading.

Wolfe<sup>1</sup> in 1925 reported a case of fetal monster which had other deformities besides the abdominal type.

Hedblom,<sup>2</sup> in 1925, reported a series of cases under the heading of herniae, 7 of which were congenital at birth, but associated with other defects.

Pribam,<sup>3</sup> in 1926, reported a monstrosity with an eventration which had other defects.

Stephan,<sup>4</sup> in 1917-18, reported 2 cases, one of a 6 month old fetus and another of 7 months. In the first case the mother was a Para 2 and had one normal child, but accompanying this case of eventration the fetus had a spina bifida among other deformities.

In the second case the mother had 5 normal children, a history of 4 abortions done in the early months of pregnancy; and the present delivery began with a hemorrhage which was diagnosed placenta previa. The membranes were ruptured and the fetus delivered. This was another case of eventration, accompanied by the absence of the bladder, urethra and vagina.

Blasi, D.,<sup>5</sup> in 1927, reported a case of congenital absence of the oblique muscles of the abdominal wall.

Scheibel, O.,<sup>6</sup> in 1927, reported a case of ectasia abdominis congenita.

Rukstinat and Balfour,<sup>7</sup> in 1928, reported a case of twin born with a lower abdominal defect with absence of the genitalia.

Poli, A.,<sup>8</sup> in 1929, reported another case where the abdominal muscles were absent.

Giangiobbe, A. P.,<sup>9</sup> in 1929, reported a case of congenital total hernia of the newborn, due to absence of the left side of the diaphragm.

Bisbini, B.,<sup>10</sup> from 1922 to 1930, reported on the differential diagnosis of diaphragmatic eventration and hernia.



Fig. 1. Photos Taken Day of Autopsy Showing Liver



Fig. 2. Showing Small Bowel

Williams, C.,<sup>11</sup> in 1930, reported a case of amniotic hernia which resembled my case in all detail. In this case an attempt was made to close the abdominal aperture, but with fatal results. In this report the technique of the operation is described and no mention was made as to cases of recoveries in similar cases where operation was performed.

Polayes, S. H.,<sup>12</sup> in 1931, reported a case of nonencephalus with eventration of the abdominal and chest organs, polyhydramnios along with other anomalies.

Cullen<sup>13</sup> in the Text "The Umbilicus and Its Diseases" describes various conditions arising from the defects of the cord.

Peisachon, W.,<sup>14</sup> in 1931, reported a case of congenital malformation of one twin with the absence of the abdominal wall, omentum, sex organs, ureter, bladder, accompanied by eventra-

tion, lordosis and torsion of the lower extremities.

As you can readily see the literature is composed of monstrosities of all varieties, and only one case which did not have other deformities than the case herewith reported.

The following is a complete case report:

Mrs. M. H., aged 35 years, married, 4 years occupation housewife.

Family History: Mother died of carcinoma of the breast, father died cause unknown; one brother alive and well, no sisters; three aunts, one has diabetes, two alive and well; one uncle died of carcinoma and one uncle alive and well. History of twins on mother's side of family both alive and normal in all respects.

Marital History: Married 4 years; husband alive and well; husband has one child living and well by former marriage, no history of other pregnancies with former wife.

Previous Illnesses: Measles, scarlet fever, pneumonia, septic sore throats. Never operated on. Always has been fairly healthy.

General History: Essentially negative. This is the patient's first marriage.

Menstrual History: Began at age 12; 28-day variety, flow of 4 to 5 days duration, moderate in amount. No history of dysmenorrhea, menorrhagia or metrorrhagia. No leukorrheas. Date of last menstruation in this pregnancy, March 13, 1931.

Pregnancy History: Patient was pregnant 4 times previous to this. The first one ended in an induced abortion at 2 months. The second ended with a spontaneous abortion at 2 months. The third one ended the same way and the fourth one ended with a spontaneous abortion at 2½ months. However there were no apparent complications with any of the abortions. At the onset of the present and last pregnancy patient attempted to induce abortion with the aid of medication and douches. Several days after instituting her treatment she started to flow and passed a large clot which she described as being the size of an egg. The bleeding stopped in a day or two following. She then decided that she was going to let everything alone and go through with the pregnancy.

Examination: Patient consulted me April 30, 1931, to undergo a general examination with the following findings:

Temperature, pulse and respirations were normal.

Blood pressure: systolic 100, diastolic 80. Pupils reacted to light and accommodation; nose, eyes and ears essentially negative. Chest, heart and lungs were negative to pathology. Tonsils were present and infected. Abdomen was negative to pathology; no masses or tender points present. Vaginal examination revealed a pregnant uterus with presumptive signs present. Reflexes were present and normal. Blood count showed Hb. 80%, red cells 4,400,000, and white count 9200. Urine was essentially negative and blood Wassermann negative.

Course: Patient returned to my office on June 15, 1931, at which time she complained of pain in the left lower abdomen with a swelling. Examination at this

time revealed a mass the size of a small grapefruit situated in the region of the left ovary, which was very tender to touch and tentatively diagnosed as an ovarian cyst. At this time the pelvic measurements were taken and found normal. Weight 161 lbs. During the following months the patient was kept under close observation. Blood pressure ranged from a systolic between 100 and 140 and diastolic between 80 and 90. From July to the onset of labor in December, there was a moderate edema of the lower extremities with no albumin or casts in the repeated urine tests. During the last month of the pregnancy an x-ray of the fetus was made which showed a moderately normal sized fetus and no other demonstrated pathology; with the cephalic presenting.

Patient suddenly went into labor on December 1, 1931, while asleep, with rupture of the membranes at about 2 a. m. She was admitted to the Lakeview Hospital at 4 a. m. with first stage labor pains coming at regular frequent intervals. Labor progressed rapidly when at 5:50 a. m. a rectal examination revealed complete dilatation with complete effacement of the cervix. During the second stage of labor the perineum seemingly looked as if it would tear due to rigidity of the muscles so a left-sided episiotomy was done. At 7:00 a. m. the head was delivered and soon found that something was obstructing the passage of the child. After some manipulating the head with slight traction, the shoulders would not move. Manipulation of the shoulders was instituted and soon the posterior shoulder was delivered and there came into view in the vagina a large red mass that looked at first glance as if the placenta was being delivered with the fetus. After the fetus was expelled we found that the red mass was none other than the liver which had broken through an amniotic membrane that was covering an eventration of the infant's abdomen. The fetus weighed 6 lbs. 15¾ oz. Female sex. The episiotomy was repaired. The fetus had a healthy cry and a normal color. Upon examination the baby was normal in all other respects except for the eventration. The placenta was expelled and upon examination revealed the following: Thin and tapered at the margins, containing many infarcts and calcified areas. The cord was inserted laterally and measured 50 cm. long, proximal portion attached to the left portion of the abdominal opening of the fetus. An attempt was made to return the contents exposed by plastic measures and finally edges of the abdominal opening were brought together, but the infant succumbed the same day. The following is an autopsy report made the following day: Baby girl H. born in the Lakeview Hospital and died the same day. Body is that of a female newborn, weight as above, length 52 cm; head circumference 33½ cm; bisacromial circumference 33½ cm. Infant born with complete eventration; the liver, stomach, small intestines and colon being exposed outside the abdominal cavity. There was a defect in all the layers of the lower abdominal wall comprising an opening about 10 cm. long and 6 cm. wide. The defect gave the impression of being a failure of the abdominal wall parietes to close, forming a herniation into the umbilical cord insertion at the um-



bilical region. The kidneys, descending colon, uterus and its appendages were within the abdominal cavity and in normal position. Rotation of the colon had not taken place. Thoracic cavity was normal. Eyes, ears, nose, throat, scalp, chest, extremities, and spine were all normal and showed no deviations from the normal.

Anatomical Diagnosis: Eventration.

#### BIBLIOGRAPHY

1. Wolfe, S. A.: Cyllosma, a rare fetal monster, *A. J. of Ob. & Gynec.* 9: 540 to 544, 1925.
2. Hedblom, C. A.: Diaphragmatic Hernia. *J. A. M. A.* 85: 947 to 953, 1925.
3. Pribram, E.: Anteromedian mero-acrania (nosencephalus), *Archiv. of Pathology.* 3: 400-403, 1927.
4. Stephan, S.: Cleft Abdominal Wall with total Eventration, *Ztschr. f. Geburtsh. u. Gynak.* 80: 591-626, 1917-18.
5. Blasi, D.: Congenital Bilateral absence of Oblique Muscles of the Abdomen. *Pediatrics.* 35: 720-724, 1927.
6. Scheibel, O.: Ectasia Abdominis congenita; 2 cases, *Acta. Obst. et Gynec. Scandinav.* 6: 329-336, 1927.
7. Rukstinat & Baliour: *Archives of Pathology.* 6: 48-53, 1928.
8. Poli, A.: Absence of Abdominal muscles; case, *Arch. di ortop.* 45: 775-801, 1929.
9. Giangioffe, A. P.: Congenital total hernia of newborn due to absence of left side of Diaphragm. *Rev. med. Latin O am.* 14: 525-534, 1929.
10. Bisbini, B.: Differential Diagnosis of Diaphragmatic Hernia. *Case. Boll. d. Soc. med. Chir. di Modena.* 30: 127-142, 1929-1930.
11. Williams, C.: Amniotic Hernia, Report of case. *Surg. Clin. of N. A.* 10: 805-809, 1930.
12. Polayes, S. H.: Case of nosencephalus with eventration of abdominal and chest organs. *Amer. Jour. Obst. & Gyn.* 21: 109-112, 1931.
13. Cullen, T. S.: *Text. Umbilicus & Diseases*, Phila. & London, W. B. Saunders Co., 1916.
14. Peisachson, W.: Congenital malformation of one twin with absence of abdominal wall, etc. Case; *Monats. f. Geburts. u. Gyn.* 88: 447-454, 1931.

4534 Broadway.

## THE SEX HORMONES

AUGUST A. WERNER, M. D.

ST. LOUIS, MO.

Endocrinology is recognized as one of the most important branches of medicine. No one now questions the great influence of the glands of internal secretion on important physiologic processes. Whether we shall remain infantile, be dwarfs, normal sized individuals or giants; whether we shall be idiots, imbeciles, morons, normal mental beings, intellectuals or even geniuses; whether we shall develop sexually at the proper age and function normally; whether we shall be sluggish, plodding and retiring, or quick, alert and aggressive, all of these and more characteristics depend largely upon when and how the different ductless glands of our body function. The control of the vital life processes

such as the maintenance of a normal cardiac and respiratory rate, the digestion of food and assimilation of the products of digestion, their storage in the body where they represent potential energy and the release of these stored products to produce dynamic energy, our sense of euphoria, all are influenced by the time of and the degree of function of the ductless glands.

In the last decade increasing interest has been manifested in the study of the organs of internal secretion and their function. Probably more research work is being carried on in this field than in any other branch of medicine, especially in relation to sex and the internal secretions, therefore it may not be amiss to present a resume of the more important information on this subject as we have it at the present time. While the biological chemists have been busily engaged in isolating new hormones most of our knowledge on this subject is based upon animal experimentation and to a lesser extent upon human clinical application. Much is theoretical, and even hypothetical. Frequently skilled and careful research workers report conflicting results obtained with practically the same experiment.

The glands and structures that elaborate secretions which influence sex function are the anterior pituitary, the gonads and possibly the placenta with other glands such as the posterior pituitary, the thyroid, the adrenals, etc., having an indirect and minor role. The anterior pituitary is probably the most important ductless gland in the body. Harvey Cushing long ago referred to it as "the Keystone of the endocrine arch." Nature has placed this important structure in the most invulnerable part of the organism, i.e., in the sella turcica of the sphenoid bone, almost the exact center of the head where the possibility of accidental injury is very remote. Formerly it was thought that the anterior hypophysis was essential to life because its removal invariably resulted in death. The operation was done through the cranium and obviously was a very formidable procedure, resulting in contusion and injury to the brain, and often accompanied by serious hemorrhage or infection. Newer methods of approach from below, through the sphenoid, by the transbuccal route as demonstrated by McLean<sup>1</sup> or through the pharynx as employed by Smith,<sup>2</sup> Dandy and Reichert<sup>3</sup> and others, which avoid the possibility of contiguous brain injury, has proved that complete hypophy-

From the Department of Internal Medicine, St. Louis University School of Medicine.

Read before the Adams County Medical Society, at Quincy, Illinois, Oct. 9, 1933.

sectomy is not incompatible with life. Intravenous injection of hypertonic salt solution causing a physiologic shrinkage of the brain by partial dehydration, also facilitates removal of the gland.

Smith<sup>2</sup> pointed out that hypophysectomy causes an invariable and characteristic syndrome in the rat; inhibition of growth in the young animal and a loss of weight in the mature, atrophy of the thyroid, suprarenal cortex, sex organs, weakness and cachexia. The animal survives for months. A lesion produced in the hypothalamic region of the brain (tuber cinereum) reached by the transtemporal route, without injury to the pituitary, gives rise to a syndrome which is distinct from that caused by pituitary ablation. This tuberal syndrome is characterized by extreme obesity, and an atrophy of the genital system; neither the thyroid nor the suprarenal cortex atrophy. Polyuria has been observed.

The anterior pituitary has three important types of cells, viz., chromophobe, eosinophile and basophile. Difference of opinion exists as to the importance of the chromophobe cells. Biedl believes that they are the precursors of the eosinophile and basophile cells. Others are of the opinion that only the basophile cells are derived from this source. Approximately two-thirds of the intracellular tumors not associated with acromegaly are composed almost entirely of chromophobe cells and the symptoms produced are the result of pressure rather than of function.

Pregnancy and castration are each productive of a definite cell type in the anterior pituitary, viz., pregnancy cells and cells of castration. Evans states that the pregnancy cells have no demonstrable granules and that hyperplasia of this type of cell is sufficient to cause enlargement of the hypophysis during the gravid state. Castration causes the appearance of two histologic changes in the anterior pituitary, namely, 1. cells of castration which are two or three times the size of the normal cells found in this gland and a relative increase in the size and number of the eosinophiles.

It is known that during pregnancy and following castration hypertrophy of the anterior hypophysis occurs. With this fact in mind and with the knowledge that the pituitary body is firmly fitted into the sella turcica, covered over by the rather dense diaphragmasella, one may at least conjecture that sufficient pressure may be pro-

duced which if long continued may cause partial inhibition of function or atrophy of the gland, which may be more or less permanent, and which may account for the cases of oligomenorrhea and amenorrhea, frequently associated with obesity that often date from some pregnancy.

*The Growth Hormone.* Evans and Long<sup>4</sup> in 1921, and Putnam, Benedict and Teel<sup>5</sup> in 1929, disclosed the presence of a growth hormone of the anterior lobe. Cushing and Davidoff<sup>6</sup> and others have rather firmly established the fact that the eosinophilic cells are the source of the growth hormone. Tumors of the anterior lobe that are productive of gigantism and acromegaly are composed almost entirely of these cells.

*The Gonad Stimulating Hormone.* Zondek,<sup>7</sup> February, 1926, and Smith,<sup>8</sup> November, 1926, proved the presence of a gonad-stimulating hormone of the anterior hypophysis by the production of Graafian follicle development, sexual maturity and the formation of corpora lutea in immature white rats and mice within 3 to 5 days by the introduction of anterior hypophyseal tissue subcutaneously. For a long time there was some controversy as to the presence of two gonad-stimulating hormones of the anterior lobe, viz., a follicle stimulating and a luteinizing one. The consensus of opinion at the present time is that there is only one hormone and the difference in effect is a quantitative one and depends upon the amount of hormone present and the physiological state of the receptor organ at a given time.

Evans, Meyer and Simpson<sup>9</sup> did some experiments which for a time made it appear possible that the growth hormone might be transformed into the gonad-stimulating hormone. It was known that prolactin (anterior pituitary-like hormone from urine of pregnant women) was strikingly ineffective in its action upon the ovaries of hypophysectomized animals. This led to the belief that the hypophysis must in some way aid the action of prolactin. They combined injections of prolactin with sex-free growth hormone and also with growth-free sex hormone and obtained activation only of their growth hormone with the production of ovaries greater than can be predicted by the additive effects of either hormone injected separately. Prolactin did not react on their growth-free sex hormone, which led them to conclude they were dealing with a prohormone



(growth hormone and an activator) prolan. Leonard later<sup>19</sup> found that extracts rich in gonadotropic hormone and free of growth-hormone could equally well be still further activated in their gonadotropic properties by the addition of prolan. Evans<sup>11</sup> ventures the opinion that there is a substance secreted by the hypophysis independent of the gonadotropic hormone of the anterior lobe which he terms an activator of prolan, and which when added to prolan, confers a stimulus to the gonads in excess of anything hitherto observed.

The anterior pituitary gonadotropic hormone normally stimulates Graafian follicle development and after rupture of the ripened follicle at about the fourteenth day, promotes formation of the corpus luteum from the granulosa cells. That this hypophyseal hormone does not act directly upon the uterus is evidenced by the fact that in castrated animals its administration has no effect upon the uterus.

*The Ovarian Follicular Hormone.* Stockard and Papanicolaou<sup>12</sup> described an exact method for following the estrual changes in the living guinea pig by the vaginal smear. This method has been applied to the correlation of the estrual phenomena in the genital organs of the rat<sup>13</sup> and the mouse.<sup>14</sup> This biological test laid the foundation for experimentation with ovarian hormones. Allen and Doisy<sup>15</sup> employing ovarian follicle fluid from hogs, produced pubertus precox in immature albino rats. The vagina of the immature rat is completely closed, its external third being a solid cord of cells. They found that the injection of the ovarian follicular hormone into immature rats, both normal and spayed, induced a sexually mature condition in the genital tract similar to that of an animal experiencing its first estrus. This was effected in from two to three days by from four to six injections of an active extract at an age as early as 26 days, or from twenty to thirty days before the usual time of the attainment of puberty. This work was later confirmed by Frank, Kingery and Gustafson.<sup>16</sup>

Allen and Doisy<sup>17</sup> also devised a simple method of testing the potency of the follicular hormone by injecting a potent extract into spayed rats in which there was atrophy of the vaginal epithelium with the production of the estrous cycle on the third day.

Frank<sup>18</sup> demonstrated that an analogous potent hormone can be obtained from the follicles, the

corpus luteum and the blood of pregnant women. Allen, Pratt and Doisy<sup>19</sup> determined quantitatively the ovarian follicular hormone in the follicle, corpus luteum and placenta of the human female, and of some animals including the cow and pig.

Aschheim and Zondek<sup>20</sup> in 1927 found that the urine of pregnant women contains large quantities of the follicular hormone. Doisy<sup>21</sup> using such urine was able to isolate the follicular hormone in crystalline form. Butenandt (Germany) working independently made the same discovery later. This substance was named theelin by Doisy and like other isolated hormones, is of great potency.

It might be well here to mention that there has been some criticism for designating theelin as a hormone. The objections being 1. that it is an excretion product found in the urine of pregnant women, and 2. the fact that estrogenic substances of varying mild potency have been extracted from potatoes, sugar beets, yeast, rice, wheat and lately from asphaltum by Sir E. C. Dodds, London. However, such authorities as Edgar Allen,<sup>22</sup> Hisaw Leonard, and Fevold<sup>23</sup> and many others of equal prominence and just recently Herbert M. Evans<sup>11</sup> have referred to this substance obtained from the urine, as the ovarian follicular hormone. Great numbers of experiments have been done upon animals in which theelin, progynon and other related extractives of urine have been used and the results simulate those done by the use of follicular fluid itself. The work done by Edgar Allen<sup>24</sup> with theelin on eight ovariectomized monkeys which is representative of the research accomplished by Hisaw, Corner, Hartman, Morrell and others, led him to make the following statements, "Theelin alone of ovarian hormones seems sufficient to supply the essential mechanism of menstruation. Theelin produces the growth phase in the accessory genital organs. This includes accelerated growth of the vaginal epithelium, growth of the glands of the cervix and body of the uterus to the interval condition, probably some repair of ciliation of the tubes, and toward the end of this interval the initiation of growth in the mammary gland tree including the nipple."

Later Werner and Collier<sup>25</sup> were able to substantiate most of the statements of Allen, by the use of theelin in thirteen castrated women used in two experiments. However, any argumenta-

tion on this question can be definitely closed by isolating from follicular fluid a crystalline substance identical with theelin in chemical composition and structure and which substance shall duplicate the action of theelin as obtained from the urine by the method of Doisy. This has not as yet been reported.

Reynolds and Allen<sup>26</sup> have shown that theelin produces rhythmical uterine contractions in the rabbit.

Meyer, Leonard, Hisaw and Martin<sup>27</sup> demonstrated the inhibitory influence of theelin and amniotin on the gonad-stimulating complex of the anterior pituitary of castrated male and female rats. Castrated male and female rats were injected with estrin (theelin and amniotin) and their hypophyses removed and implanted into immature female rats. The ovaries of the immature recipients were weighed and compared with ovaries of immature female rats which had received implants of the hypophyses of castrated male and female rats not injected with estrin. It was found that the ovaries of those immature rats which received the hypophyses of the males injected with estrin weighed 45 per cent. less than the ovaries of the control recipients. The ovaries of the rats implanted with the hypophyses of castrated female rats injected with estrin weighed 47 per cent. less than those of the control animals. These facts show that estrin decreases the amount of gonad-stimulating complex in the hypophyses of castrated male and female rats when compared with control animals. It is concluded that this decrease is the result of the inhibition of production of the gonad-stimulating complex by estrin.

*Hormones of the Corpus Luteum.* In 1929 Corner and Allen<sup>28</sup> described the preparation by the extration of corpora lutea with boiling alcohol, of a hormone which produced proliferation of the castrate rabbit uterus and which also maintained the embryos. This hormone was subsequently named progesterin. Fevold, Hisaw and Leonard,<sup>29</sup> 1931; claimed to have extracted three hormones from the corpora lutea of the sow, viz., relaxin, which has a specific action on the pelvic ligaments; corporin, which is concerned with the physiology of the uterus and a mucifying principle which acts on the vaginal mucosa.

Duncan,<sup>30</sup> 1854, was the first to observe and report the relaxation of the pelvic ligaments during pregnancy. Hisaw<sup>31</sup> made a physiological

study of these pelvic changes in the pregnant guinea pig and found them to be under hormonal control. He found that the blood serum of pregnant guinea pigs, dogs, cats, sows, mares and rabbits contained a substance which when injected into virgin guinea pigs during estrus, would produce marked relaxation of the pelvic ligaments within eight to twelve hours. Later it was found that this substance could be extracted in abundance from the maternal and fetal parts of the placenta and the corpora lutea of the sow. This active principle was prepared in a relatively pure state from the sow corpora lutea by Hisaw, Fevold and Meyer<sup>32</sup> and they named it relaxin. An important point brought out in this work was the fact that the maximum response to relaxin occurred only during or close to the time of estrus. Continued large doses of relaxin would not prevent a return to the original rigid condition during the following diestrus. It was also found that the pelvis of castrated females would not respond to relaxin until the animals had been brought under the influence of theelin, and when both hormones were given simultaneously, relaxin did not act until theelin had produced its effect. This observation indicated that neither theelin nor relaxin alone could elicit relaxation of the guinea pig pelvis, but that the reaction was due to a "one-two" synergistic relationship between the two hormones.

Progesterin (Corner and Allen) and corporin (Hisaw and Fevold) both derived from corpora lutea, but with some variation in technique, are considered to be similar substances.

Allen<sup>33</sup> described a process for the preparation of a purified progesterin in crystalline form, but he has reason to believe that it might be contaminated with minute amounts of estrin or theelin. In small amounts progesterin does not produce heat in rats, but injection of large amounts does have this effect, and this last action is a function of estrin or theelin. Fevold, Hisaw and Leonard<sup>34</sup> have produced a crystalline substance that has high potency in producing progestational modification in the uteri of rabbits, but they state that "they do not know that the crystals are the pure hormone, for the uteri of rabbits, which show pronounced progestational modification as a result of treatment with the crystalline preparation, continue to give a strong response to pituitrin, which is in direct contrast to the response of the uteri of pregnant and



pseudopregnant rabbits or those which have received crude corporin preparations," which inhibit uterine contraction as produced by pituitrin.

The mucifying factor which Fevold, Hisaw and Leonard have separated from their corporin and relaxin may be estrin or theelin which was not removed by their chemical method of separation. Robson and Wiesner<sup>35</sup> found that crude estrogenic extracts will produce mucification of the vagina of mice if subcornifying doses are given, and Meyer and Allen<sup>36</sup> have found this true for rats, mice and guinea pigs, following the extracts of corpora lutea, extracts of male urine (which contained the estrus hormone) and crystalline theelin. Hisaw<sup>37</sup> states "these results very strongly indicate that theelin is either directly or indirectly responsible for vaginal mucification and suggests the possibility that positive results reported for corpus luteum extracts may have been due to the presence of small amounts of theelin."

*Progestational Changes in the Uterus.* Bouin and Ancel<sup>38</sup> were the first to demonstrate that anatomical changes actually occurred in the uterus of the rabbit in conjunction with development of corpora lutea. They also showed that removal of the corpora lutea by excision or cauterization prevented formation of the progestational condition.

Corner and Allen<sup>39</sup> were the first to prove by means of extracts, that the progestational changes in the rabbit's uterus were due to a specific hormone of the corpus luteum. Hisaw and Leonard<sup>40</sup> confirmed the results of Corner and Allen and proved that the progestational changes in the uterus of the rabbit were the result of a "one-two" reaction, in which the follicular hormone must precede the action of corporin or progestin. The follicular phase is characterized by rapid endometrial growth associated with mitotic activity; the glands are straight or only slightly coiled and the uterus is hyperemic. During the luteal phase the glands become coiled or assume the so-called "cork-screw" appearance and dilate. The cells of the glandular and uterine epithelium swell, secrete actively, the outer surfaces become frayed and mitotic figures are very few or absent.

Leonard, Hisaw and Fevold<sup>41</sup> have recently made studies to determine the quantitative effect of theelin and corporin upon the uterus of the rabbit. They found that the endometrium of

the rabbit uterus cannot respond to theelin and corporin at the same time, but that any response elicited depended upon which hormone had the quantitative advantage provided the uterus had previously been sensitized by theelin. They also proved that corporin or progestin do not act on an endometrium which has not first been primed or conditioned by theelin.

Allen<sup>42</sup> using theelin, and Morrell, et al<sup>43</sup> by the use of amniotin produced marked growth of the endometrium of monkeys associated with great mitotic activity and found that uterine bleeding follows within a few days after the discontinuance of treatment. These endometrial changes are typical of the follicular phase of the normal cycle.

Werner and Collier<sup>44</sup> in two experiments in which thirteen castrated women having their uteri intact were used (5 women in the first experiment and 8 women in the second) found that theelin restores the breasts and genital tract of women to apparently the normal sexual state after previous castration atrophy; that theelin produces changes in the atrophied endometrium of castrated women that approximate or equal the interval changes found in normal women at the time of ovulation; that theelin does not produce the pregravid changes in the endometrium of castrated women; that bleeding occurs from this theelin-induced endometrium within 3 to 5 days following cessation of injections and in several instances has occurred without evidence of endometrial growth. Uterine bleeding also occurred frequently while injections were being given. This bleeding was accompanied by the subjective symptomatology usually experienced by normal women during menstruation and was qualitatively undistinguishable from menstruation in normal women. Theelin relieved the subjective symptom that occur in women following castration, and 9 of the 10 women treated in both experiments stated that "libido was markedly increased."

Hisaw, Meyer and Fevold, 1930 and 1932,<sup>45</sup> produced the premenstrual endometrium in castrated adult monkeys (*Macacus rhesus*) by first injecting theelin for 10 to 15 days and following this by a series of injections of corporin. They also found that uterine bleeding, which usually occurs within five to nine days following discontinuance of theelin, was not postponed by corporin, nor could corporin, in what was consid-

ered otherwise sufficient dosage, affect changes in the endometrium when given in conjunction with large amounts of theelin.

*Dependence of Gestation Upon the Corpus Luteum.* Fraenkel and Cohn, 1901, and Fraenkel, 1903,<sup>46</sup> first demonstrated that extirpation of the ovaries or all of the corpora lutea from pregnant rabbits before implantation of the embryos, between implantation and the 14th day or from the fourteenth to the eighteenth day terminated pregnancy in all cases, while similar operations after the 20th day may be without effect. Harris<sup>47</sup> found that bilateral ovariectomy of pregnant mice always produced resorption or abortion. Loeb<sup>48</sup> found that if the corpora lutea are removed from the ovaries of the guinea pig before the end of the second day after coitus, pregnancy is invariably terminated, but if the operation is performed at a later time, even before implantation, normal gestation may occur. He assumes that the corpora lutea have sensitized the uterus sufficiently by the end of the second day that it responds to the implantation reactions of the ova.

Adsell,<sup>49</sup> from a review of the literature, found in 34 cases of bilateral ovariectomy in human beings during pregnancy ranging from the first to the 7th month that only four instances of interrupted gestation occurred. It is probable that many cases in which abortion occurred, were not reported. It seems evident that the corpus luteum has an important function in forming and maintaining a proper physiological environment in the uterus for the normal development of the embryo.

*Effect of Corpus Luteum on Follicle Development and Ovulation.* Beard, 1897,<sup>50</sup> and Prenant, 1898,<sup>51</sup> first suggested that the corpus luteum might be the inhibitor of ovulation during pregnancy, to which idea has been more recently added the thought that it might also be responsible for the suppression of follicular activity during the estrous cycle. Loeb, 1911, found that extirpation of the corpora lutea of the ovaries of guinea pigs accelerated the next ovulation, while extirpation of other parts of the ovaries had no such effect. Loeb and Hesselberg, 1917,<sup>52</sup> reported that ovulation during pregnancy may follow excision of the corpora lutea. Williams, 1921,<sup>53</sup> and Hammond, 1927,<sup>54</sup> found that if the corpus luteum of the nonpregnant cow was

squeezed out by rectal manipulation that estrus and ovulation usually followed within forty-eight hours. Jares,<sup>55</sup> found that it required the injection of about three times as much pregnancy urine to induce ovulation in rabbits in the presence of corpora lutea as it did in their absence. His interpretation of the results in this series of experiments is that the corpus luteum exerts an inhibitory influence upon the action of the gonad-stimulating substance or substances of the anterior hypophysis, or the similarly acting substance in pregnancy urine. Loeb<sup>56</sup> stressed the fact that in the guinea pig, follicles may mature during the functional life of the corpora lutea, but ovulation is inhibited. This indicates that the corpus luteum does not retard growth of the follicles up to a certain point, but that it does inhibit ovulation.

*The Placenta as a Source of Hormone Production.* Aschheim and Zondek,<sup>57</sup> 1927, found both an estrogenic and an anterior pituitary-like substance in the urine of pregnant women. Doisy, Veler and Thayer,<sup>58</sup> 1929, reported the isolation of the crystalline follicular hormone from the urine of pregnant women. This hormone having the formula  $C_{18}H_{22}O_2$  they named theelin. A second crystalline substance was also found by them, having the formula  $C_{18}H_{24}O_3$  and is known as theelol. This compound is estrogenic, but does not possess the potency of theelin when injected, but it is more potent than theelin when both are administered orally.

For a while it was thought that A. P. L. extract (Prolan) from the urine was the anterior pituitary gonad-stimulating hormone, but this has been disproved. Evans and his coworkers and others<sup>11</sup> have found differences in the action of these two substances, viz.,

"1. They early discovered that there is a sharp limit to the effects which may be secured in 100 hours of administering any amount of prolان, no matter how frequent the interval between doses given young immature animals (rats) whereas increasing amounts of the true gonadotropic hormone from anterior lobe tissue always give increasing effects on the genital system of the young recipients. In this way it can easily be shown that the substance in the blood stream and placenta, as well as in the urine of pregnant women is prolان unadmixed with the true hypophyseal gonadotropic hormone.

2. Prolان is ineffective in increasing the development or weight of the testes in young birds (chicks



or pigeons).

3. Prolan will apparently not cause 'reddening' of the sexual skin in *Macacus* and related forms, whereas hypophyseal hormone accomplishes this readily.

4. Finally prolan is strikingly ineffective in hypophysectomized animals. They were able to show that even with massive doses, chronically administered, prolan may be ineffective in stirring the sexual system of hypophysectomized animals and is always less effective than in normal ones."

Collip, Selye, Anderson and Thomson<sup>66</sup> published an article which seems to rather definitely settle the controversy regarding the individuality of the anterior lobe gonad-stimulating and A. P. L. hormones. They found that rats hypophysectomized before puberty do not react to treatment with the anterior pituitary-like hormone as normal rats do, with enlargement of the ovaries, ripening of follicles, production of corpora lutea and secretion of estrin, but by an inconspicuous and unexpected histologic change in the ovaries; the cells of the theca become transformed into luteal cells, while granulosa cells are unaffected. They state "it thus appears that the usual action of the anterior pituitary-like hormone on the ovaries of the normal prepubertal rat or mouse (the Aschheim-Zondek reaction) is possible only because the hypophysis of the test animal is intact and presumably because there circulates in the blood of the test animal a substance, originating in the pituitary, that is complementary to the anterior pituitary-like hormone and enables it to exert its full action on the ovary instead of merely producing thecal luteinization.

Loeb<sup>67</sup> pointed out a quantitative species difference in the response of animals to administration of similar hormones.

Selye, Collip and Thomson<sup>68</sup> were able to confirm the finding of Loeb that "the anterior pituitary-like hormone administered to young female guinea-pigs does not produce a typical Aschheim-Zondek effect, but leads to thecal luteinization similar to that seen in hypophysectomized rats. They state "since it had been found that very young suckling rats responded in this modified way to A. P. L. hormone, which we interpret as due to the failure of the anterior pituitary at this early age to supply sufficient complementary substance, we at first considered that the guinea-pig pituitary also failed to supply this substance in adequate amounts; but it may well be that the ovary of the guinea pig is adjusted to a different balance of the two active principles and requires a relatively larger amount of the complementary substance than the rat ovary." They

summarize as follows: "The anterior pituitary-like gonad-stimulating substance of the human placenta and of human pregnancy blood and urine causes merely thecal luteinization in immature rats, to very young suckling rats or to guinea-pigs. Hence, when in the normal rat it produces enlargement of follicles and presence of a complementary substance produced by the pituitary of the test animal."

The question also arose as to the source of these hormones from the urine of pregnant women. Early in the course of exploration of the distribution of theelin large amounts were found in special tissues concerned with pregnancy, especially the human placenta. At full term a placenta weighing between 500 and 700 grams may contain more than 1000 rat units of theelin. Theelin appears in the fetal membranes before the third month. Positive tests in mice have been obtained from an extract of a chorionic vesicle containing a normal 12.5 mm. human embryo of an estimated age of seven weeks by Allen, Pratt and Doisy<sup>59</sup>. There is an increase in the amount of theelin with the increase in the size of the placenta which rises to a maximum toward the end of gestation. Other parts of the fetal membranes contain substantial amounts of the hormone and amniotic fluid contains a large quantity. Excreted theelin decreases in amount during the 2 or 3 days following parturition. Prolan appears very early after the first missed period, reaches its maximum in a few days but continues at a high level until about the middle of the period of gestation after which it becomes gradually less, disappearing entirely about a week or ten days postpartum. The production of theelin during pregnancy is unchanged after ovariectomy. Amati<sup>60</sup>, Probstner<sup>61</sup>, and others have reported that urine assays following such ovariectomies show that the yield of estrin and A. P. L. hormone are undiminished. Engle<sup>62</sup> states "The great amounts of anterior pituitary-like hormone in blood and urine are regarded by the majority of investigators to be of placental origin, though no decisive experiment has as yet been completed." Zondek has recently expressed the opinion that these circulating hormones are first secreted by the anterior lobe and ovary, respectively, but that later the placenta secretes the same substances either alone or at the same time as the gland originally concerned.

Collip<sup>63</sup> extracted an alcohol soluble sub-

stance from the human placenta that he thought was a hitherto unrecognized active principle which evoked follicular growth in the ovaries of immature animals and thereby induced premature estrus. He named this preparation "emmenin." He has since stated that "he believes that emmenin is trihydroxy-estrin (theelol) with formation of corpora lutea, it does so by virtue of the some unknown substance that alters the solubility without greatly modifying the physiologic properties.

Butenandt also had a preparation which seemed similar to theelol and emmenin which he called "follicle-hormone-hydrate." He and Browne<sup>65</sup> examined and compared these three preparations chemically and physically and did physiological tests on mice with them. Their conclusions are that theelol and follicle-hormone-hydrate are identical substances and they state that "they have every reason to believe that emmenin is also identical with the other two." In other words they believe that theelol, emmenin and follicle-hormone-hydrate are one and the same substance.

#### COMMENT

The success attained by research workers in the field of endocrinology in the past, presages that in the not far distant future the various hormones of the ductless glands will have been isolated. Several obstacles tend to make endocrine biochemical research difficult, among which may be mentioned: 1, the minuteness of some of the ductless glands such as the parathyroids, the anterior pituitary, the follicles and corpora lutea of the ovaries, the adrenals, etc.; 2, the limited amount of glandular tissue available; and 3, the small amount of active principle present in the glands; 4, the instability of some hormones such as the A. P. L. and gonadotropic; 5, the difficulty in assay in some instances. The ultimate goal of the biochemist is chemical isolation of these hormones and determination of their structure, so that they may be made synthetically and be plentifully available to all.

It is also apparent from a review of this work how necessary vivisection and animal experimentation are to the advancement of our knowledge of endocrinology, by indicating probable or actual physiological activity of isolated substances, and a determination of unit dosages, so that application can be made to human kind.

The clinical significance of past and future discoveries in endocrinology must be obvious to all.

404 Humboldt Building.

#### BIBLIOGRAPHY

1. McLean, A. J.: Transbuccal Approach to Encephalon in Experimental Operations upon Carnivorous Pituitary Pons and Ventral Medulla, *Ann. Surg.* **88**: 985-993, 1928.
2. Smith, P. E.: The Disabilities Caused by Hypophysectomy and Their Repair, *J. A. M. A.* **88**: 158-161, 1927; Hypophysectomy and a Replacement Therapy in the Rat, *Am. J. Anat.* **45**: 205-273, 1930.
3. Dandy, W. E., and Reichert, F. L.: Studies on Experimental Hypophysectomy: Effect on Maintenance of Life, *Bull. Johns Hopkins Hosp.* **37**: 1-13, 1925. Reichert, F. L.: The Results of Replacement Therapy in a Hypophysectomized Puppy. Four Months of Treatment with Daily Heterotransplants, *Endocrinology*. **12**: 451-466, 1928.
4. Evans, H. M., and Long, J. A.: The Effect of Anterior Lobe Administered Intraperitoneally for Growth, Maturity and Estrus Cycles of the Rat, *Anat. Rec.* **21**: 62-63, 1921.
5. Putnam, T. J.: Benedict, E. B., and Teel, H. M.: Studies in Acromegaly. Experimental Canine Acromegaly Produced by Injection of Anterior Lobe Pituitary Extract, *Arch. Surg.* **18**: 1708-1736, 1929.
6. Cushing, Harvey, and Davidoff, Leo M.: The Pathological Findings in Four Autopsied Cases of Acromegaly with a Discussion of Their Significance, Monograph of the Rockefeller Institute for Medical Research. **22**: 1927.
7. Zondek, Bernhard: Ueber die Funktion des Ovariums, *Deutsche Med. Wchnschr.* **52**: 343-344, 1926.
8. Smith, P. E.: Hastening Development of Female Genital System by Daily Homoplastic Pituitary Transplants, *Proc. Soc. Exp. Biol. & Med.* **24**: 131-132, 1926.
9. Evans, H. M.: Meyer, K., and Simpson, M. E.: Relation of Prolan to the Anterior Hypophyseal Hormones, *Am. J. Physiol.* **100**: 141-156, 1932.
10. Leonard, S. L.: Increased Stimulation of Immature Rat Ovaries by Combined Injections of Prolan and Hypophyseal Sex Hormone, *Proc. Soc. Exp. Biol. & Med.* **30**: 403, 1932.
11. Evans, H. M.: Present Position of Our Knowledge of Anterior Pituitary Function, *J. A. M. A.* **101**: 425-432, 1933.
12. Stockard, C. R., and Papanicolaou, G. N.: Existence of a Typical Estrus in the Guinea Pig with a Study of Its Histology and Physiological Changes, *Am. J. Anat.* **22**: 225, 1917.
13. Long, A. J., and Evans, H. M.: The Estrus Cycle in the Rat and Its Associated Phenomena, *Mem. Univ. Calif. (June)*, 1922.
14. Allen, Edgar: The Estrus Cycle in the Mouse, *Am. J. Anat.* **30**: 297-371, 1922.
15. Allen, Edgar, and Doisy, E. A.: The Induction of a Sexually Mature Condition in Immature Females by Injection of the Ovarian Follicle Hormone, *Am. J. Physiol.* **69**: 577-588, 1924.
16. Frank, R. T.; Kingery, H. M., and Gustafson, R. G.: The Female Sex Hormone, *J. A. M. A.* **85**: 1558-1559, 1925.
17. Allen, Edgar, and Doisy, E. A.: An Ovarian Hormone, *J. A. M. A.* **81**: 819-821, 1923.
18. Frank, R. T.: The Female Sex Hormone, Springfield, Ill., C. C. Thomas, 1929.
19. Allen, Edgar; Pratt, J. P., and Doisy, E. A.: The Ovarian Follicular Hormone; Its Distribution in Human Genital Tissues, *J. A. M. A.* **85**: 399-405, 1925.
20. Aschheim, S., and Zondek, B.: Hypophysenvorderlappenhormon und Ovarialhormon im Harn von Schwangeren, *Klin. Wchnschr.* **6**: 1321, 1927.
21. Doisy, E. A.; Thayer, S. A., and Veler, C. D.: The Crystalline Follicular Hormone, Theelin, *J. Biol. Chem.* **86**: 499-500, 1930.
22. Allen, Edgar: The Crucial Clinical Experiment with the Ovarian Follicular Hormone, *J. Missouri M. A.* **30**: 4, 1933.
23. Leonard, S. L.; Hisaw, F. L., and Fevold, H. L.:



- Further Studies of the Follicular-Corpus Luteum Hormone Relationship in the Rabbit, *Am. J. Physiol.* 100: 111-121, 1932.
24. Allen, Edgar: Effects of Ovariectomy on Menstruation in Monkeys, *Am. J. Physiol.* 85: 471-475, 1928; *Endocrine Activity of the Ovary*, J. A. M. A. 97: 1189-1192, 1931.
25. Werner, Aug. A., and Collier, W. D.: The Effect of Theelin Injections on the Castrated Woman, J. A. M. A. 100: 633-640, 1933; The Minimum Dosage of Theelin Necessary to Produce Endometrial Growth in Castrated Women, J. A. M. A. 101: 1466-1471, 1933.
26. Reynolds, S. R. M., and Allen, Willard M.: The Effect of Progestin Containing Extracts of Corpora Lutea on Uterine Motility in the Unanesthetized Rabbit with Observations on Pseudopregnancy, *Am. J. Physiol.* 102: 39-55, 1932.
27. Meyer, Roland K.; Leonard, S. L.; Hisaw, F. L., and Martin, S. J.: The Influence of Estrin on the Gonad-Stimulating Complex of the Anterior Pituitary of Castrated Male and Female Rats, *Endocrinology*. 15: 655-665, 1932.
28. Corner, G. W., and Allen, W. M.: Physiology of the Corpus Luteum II, *Am. J. Physiol.* 88: 326-339, 1929, and *ibid.* III, 88: 340, 1929.
29. Fevold, H. L.; Hisaw, F. L., and Leonard, S. L.: Hormones of the Corpus Luteum. The Separation and Purification of Three Active Substances, *J. Am. Chem. Soc.* 54: 254-263, 1932.
30. Duncan, J. M.: The Behavior of the Pelvic Articulations in the Mechanism of Parturition, *Dublin J. M. Sc.* 18: 60, 1854.
31. Hisaw, F. L.: The Influence of the Ovaries on the Resorption of the Pubic Bones of the Pocket Gophers, *Geomys Bursarios* (Shaw), *J. Exper. Zool.* 42: 411, 1925; Experimental Relaxation of the Pubic Ligaments of the Guinea Pig, *Proc. Soc. Exp. Biol. & Med.* 23: 661, 1926; Experimental Relaxation of the Symphysis Pubis of the Guinea Pig, *Anat. Rec.* 37: 126, 1927.
32. Hisaw, F. L.; Fevold, H. L., and Meyer, F. K.: The Relaxative Hormone of the Corpus Luteum. Its Purification and Concentration, *J. Am. Chem. Soc.* 52: 3340-3348, 1930.
33. Allen, W. M.: The Preparation of Purified Progestin, *J. Biol. Chem.* 98: 2, 1932.
34. Fevold, H. L.; Hisaw, F. L., and Leonard, S. J.: Hormones of the Corpus Luteum. The Separation and Purification of Three Active Substances, *J. Am. Chem. Soc.* 54: 254, 1932; Fevold, H. L., and Hisaw, F. L.: Purification of Corporin, *Proc. Soc. Exp. Biol. & Med.* 29: 620-621, 1932.
35. Robson, J. M., and Wiesner, B. P.: The Causation of Mucification and Cornification in the Vagina of the Mouse, *Quart. J. Exp. Physiol.* 21: 217, 1931.
36. Meyer, R. K., and Allen, W. M.: The Production of a Mucified Vaginal Epithelium in Certain Rodents by the Estrus Hormone, *Anat. Rec. (supplement)* 51: 21, 1931; The Production of Mucification of the Vaginal Epithelium of Rodents by the Estrus Hormone, *Science* 76: 111, 1932.
37. Hisaw, F. L.: Physiology of the Corpus Luteum; Sex and Internal Secretions, Edgar Allen, 1932.
38. Bouin, P., and Ancel, P.: Sur la fonction du corps jaune: action du corps jaune vrai sur l'uterus, *Compt. rend. Soc. de biol.* 66: 505-507, 1909.
39. Corner, G. W., and Allen, W. M.: Physiology of the Corpus Luteum, Production of a Special Uterine Reaction (Progestational Proliferation) by Extracts of the Corpus Luteum, *Am. J. Physiol.* 88: 326-339, 1929.
40. Hisaw, F. L., and Leonard, S. L.: Relation of the Follicular and Corpus Luteum Hormones in the Production of Progestational Proliferation of the Rabbit's Uterus, *Am. J. Physiol.* 92: 574-582, 1930.
41. Leonard, S. L.; Hisaw, F. L., and Fevold, H. L.: Further Studies of the Follicular-Corpus Luteum Hormone Relationship in the Rabbit, *Am. J. Physiol.* 100: 111-121, 1932.
42. Allen, Edgar: The Menstrual Cycle of the Monkey, *Macacus rhesus*: Observations on Normal Animals; the Effects of Removal of the Ovaries and the Effects of Injections of Ovarian and Placental Extracts into the Spayed Animals, *Carnegie Inst. Contrib. to Embryol.* 19: 1-44, 1927.
43. Morrell, J. A.; Powers, H. H.; Varley, J. P., and DeFrates, J.: The Results of Oral Administration of Amniotin to Monkeys, *Endocrinology* 14: 28-31, 1930.
44. Werner, Aug. A., and Collier, W. D.: The Effect of Theelin Injections on the Castrated Woman, *Proc. Exp. Biol. & Med. (June)*, 1932; J. A. M. A. 100: 633-640, 1933; The Minimum Dosage of Theelin Necessary to Produce Endometrical Change in Castrated Women, J. A. M. A. 101: 1466-1471, 1933.
45. Hisaw, F. L.; Meyer, R. K., and Fevold, H. L.: Personal communication and demonstration.
46. Fraenkel, L., and Cohn, F.: Experimentelle Untersuchungen über den Einfluss des Corpus luteum auf die Insertion des Eies, *Anat. f. Gynak.* 68: 438, 1903.
47. Harris, R. G.: Effect of Bilateral Ovariectomy upon Duration of Pregnancy in Mice, *Anat. Rec.* 37: 83, 1927.
48. Loeb, L.: The Mechanism of the Sexual Cycle with Special Reference to the Corpus Luteum, *Am. J. Anat.* 32: 305-343, 1923.
49. Adsell, S. A.: The Growth and Function of the Corpus Luteum, *Physiol. Rev.* 8: 313, 1928.
50. Beard, J.: The Span of Gestation and the Cause of Birth, G. Fischer, Jena.
51. Prenant, A.: La valeur morphologique du corpus jaune, *Rev. Gen. d. Sc.* 9: 646.
52. Loeb, L., and Hesselberg, C.: The Changes in the Pregnant Guinea Pig; the Effect of Luteum Injections, and the Correlation Between the Cycle of the Uterus and Ovaries and the Cycle of the Mammary Gland, *J. Exp. Med.* 25: 305, 1917.
53. Williams, W. L., and Williams, W. W.: Diseases of the Genital Organs of Domestic Animals, Ithaca, N. Y.
54. Hammond, J.: The Physiology of Reproduction in the Cow, New York, MacMillan Co.
55. Jares, J.: Studies on Induction of Ovulation and the Inhibitory Influence of Corpora Lutea on Ovulation in the Rabbit, *Am. J. Physiol.* 101: 545-558, 1932.
56. Loeb, L.: The Mechanism of the Sexual Cycle with Special Reference to the Corpus Luteum, *Am. J. Anat.* 32: 305-343, 1923.
57. Aschheim, S., and Zondek, B.: Hypophysenvorderlappenhormon und Ovariohormon in Harn von Schwangeren, *Klin. Wchnschr.* 6: 1322, 1927.
58. Doisy, E. A.; Veler, C. D., and Thayer, S. A.: Folliculin from the Urine of Pregnant Women, *Am. J. Physiol.* 29: 329, 1929; The Preparation of the Crystalline Ovarian Hormone from the Urine of Pregnant Women, *Proc. Soc. Exp. Bio. & Med.* 86: 499-509, 1930.
59. Allen, Edgar; Pratt, J. P., and Doisy, E. A.: The Ovarian Follicular Hormone; Its Distribution in Human Genital Tissues, J. A. M. A. 85: 399-405, 1925.
60. Amati, G.: Placenta and Ovarial Hormon, *Zentralbl. f. Gynak.* 52: 2639-2645, 1928.
61. Probstner, A.: Zur Froga der innersekretorischen Tätigkeit der Plazenta, *Endokrinologie* 8: 161, 1931.
62. Engle, E. T.: Sex and the Internal Secretions, Williams & Wilkins, 1932. Chap. 16.
63. Collip, J. B.: The Placental Hormones, *Brit. M. J.* 2: 1080, 1930.
64. Campbell, A. D.: Concerning Placental Hormones and Menstrual Disorders, *Annals. Int. Med.* 7: 330-341, 1933.
65. Butenandt, A., and Browne, J. S. L.: Vergleichende Untersuchung von Theelol, Emmenin und Follikelhormonhydrate, *Hoppe-Seyler's Ztsch. f. Physiolog. Chem.* 216: 49-56, 1933.
66. Collip, J. B.; Selye, Hans; Anderson, Evelyn M., and Thomson, D. L.: Production of Estrus: Relationship Between Active Principles of the Placenta and Pregnancy Blood and Urine and Those of the Anterior Pituitary, J. A. M. A. 101: 1553-1556, 1933.
67. Loeb, Leo: The Specificity in the Action of the Anterior Pituitary of Different Mammals as Well as of the Urine of Pregnant Women of the Sex Organs and Thyroid Glands of Immature Female Guinea Pigs, *Endocrinology* 16: 129-145, 1932.
68. Selye, Hans; Collip, J. B., and Thomson, D. L.: Further Studies on the Production of Thecal Luteinization by Means of A. P. L., *Proc. Soc. Exp. Biol. & Med.* 30: 780-783, 1933.

## TOTAL GASTRECTOMY

(Esophago-Jejunostomy. An unusual case)

M. H. STREICHER, M. D.

Dept. of Surgery  
Grant Hospital

CHICAGO

*Introduction:* Schlatter of Switzerland was the first to have performed a successful esophago-jejunosomy in 1897. His patient died in four months, with no complications. Since then only thirty cases have been reported throughout the world.

I sincerely believe that no gastrectomy should be performed by any surgeon without having carefully studied individual case reports of previous operations of this nature. The various intricate problems that present themselves at the operating table are well exemplified by such writers as Conner, Schlatter, Finney and Rienhoff, Czerny, Stahnke, Kaiser, Moynihan, W. J. Mayo, Balfour, E. Starr, Judd, Walters and Marshall.

I feel justified in reporting this case because, for many obvious reasons, very few of these cases are successfully performed.

This patient is Mrs. L. F., aged 45 years, who came to me with symptoms of vomiting over six-month period, loss of thirty pounds and pain in the epigastrium following a heavy meal. The symptoms grew progressively worse until she came to Chicago and entered the Grant Hospital on December 13, 1932. Her weight was one hundred thirty pounds. On physical examination a large mass was palpable in the epigastrium above the umbilicus, freely movable in all directions. X-ray examination showed carcinomatous involvement of the entire stomach bed. Chest plates were negative. The hemoglobin content was 65%, red count 3,800,000 and leucocyte count of 13,000 with an average distribution of the differential count. The urine was essentially negative.

*Operation:* Esophago-Jejunostomy.

On opening the abdomen I found the walls of the entire stomach diffusely involved with a gelatinous carcinoma, the pylorus and cardiac portions were also involved. I decided to remove the entire stomach and attach the esophagus to the jejunum. The mesentery was freed—the duodenum was cut about one-half inch below the pylorus and after pulling the esophagus down below the diaphragm for two or three cm. the esophagus was severed about three-fourths inch above the cardiac sphincter. Then the jejunum was raised through the transverse mesocolon and an anastomosis performed between the distal end of esophagus and side of jejunum. All layers were sutured by one row of chromic gut, in addition to the customary continuous row of silk.

*Pathology:* (Dr. Jaffe.)

*Gross:* The posterior and anterior walls were in-

involved to about four-fifths of the circumference, about twenty mm. thick, light grayish white in color, most of the thickening is formed by the submucosa.

*Microscopic:* Colloid carcinoma, involving the entire thickness of the mucosa and extending into the submucosa. The lymph nodes at the greater curvature show early metastatic involvement.

*Course:* With the exception of one complication (to be described later) the patient recovered very nicely and was discharged on December 29, 1932, weighing one hundred five pounds. She was given a liberal liquid and semi-soft diet, eating four to six times daily.



Fig 1. X-ray showing involvement of entire stomach.

*Follow-up:* March 19, about three months after operation, patient returned to Chicago. X-ray study of the case showed compensatory dilatation of the proximal jejunal section. The blood picture showed slight improvement—hb. 65%, red count 4,020,000, white count 10,200, 65N.-Eos. 5, Lym. 28, Mono. 2. She has gained fourteen pounds since her discharge from hospital.

July 4, patient returned to Chicago to see the "Century of Progress." She now weighs one hundred twenty-eight pounds; eats six times daily, has a normal bowel action, feels fine and has no symptoms. Hb. is 70%, red count 3,710,000, white count 6400, 64N., E. 4, Lymph 30, Mo. 2.

October 2, weight one hundred thirty-two pounds. Eating well; six to seven times daily. Has a normal bowel action daily, no vomiting symptoms. Free acidity is absent, combined acidity ten degrees. Blood count about same as on July 4.

*After-Care:* Considerable has been accomplished in this case by placing the patient on dilute HCL, liver extract and iron and copper containing foods very early in her post-operative convalescence. I also stressed the importance of chewing her food well before swallowing and eating small meals.

*Discussion:* There is no doubt in my mind that I was greatly influenced in the choice of operation between esophago-duodenostomy and esophago-jejunosomy by the statement of Finney—that the mortality in esophago-duodenostomy is 58% against 42% for esophago-jejunos-



tomy. I also well remember reading a discussion on total gastrectomy by D. C. Balfour of the Surgical Division of the Mayo Clinic, in which he said "The most important single point in securing safe anastomosis is that the first suture line between the esophagus and the jejunum be placed before the stomach is removed."

One of the rare complications that may occur following total gastrectomy is duodenal fistula. In the exhaustive account by Finney and Rien-



Fig. 2. Section showing carcinomatous infiltration of stomach wall.

hoff only one case is reported with duodenal fistula. The case was operated on by Goldschwend and Bremer in 1909 in Germany, an esophago-



Fig. 3. X-ray showing compensatory dilatation of jejunum six months following operation.

jejunostomy was performed; patient died in two weeks.

The case I am presenting now developed a duodenal fistula on the eighth post-operative day and drained for about five weeks. It finally subsided and healed satisfactorily, no drainage having appeared since.

I wish to thank Dr. Movius and Dr. Posey (interns) and Miss Quinn, Miss McClaren, Miss Harkley, Miss Kloak, Miss Regner and Miss Phillips for their assistance in the operating room.

307 North Michigan Boulevard.

## THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

MAURICE LEWISON, M. D.,

Professor of Physical Diagnosis, College of Medicine, University of Illinois. Attending Physician, Mount Sinai Hospital. Formerly Attending Physician and Chief, Tuberculosis Staff, Cook County Hospital

CHICAGO

This subject is of great clinical value for two important reasons. *First*, because we should regard patients with advanced pulmonary tuberculosis as neglected cases, the diagnosis in the earliest stages being of paramount importance in the treatment of this disease; *secondly*, because the favorable outlook in the management of pulmonary tuberculosis is in direct proportion to the incipency of the stage at which treatment is commenced. In all treatises on the subject, attention has been focused upon the study of physical signs, x-ray and other laboratory findings. Although these are of importance, in the earliest stages of tuberculosis, very few of these signs are present. In order to diagnose tuberculosis at the earliest possible stage, recognition of the etiologic factors and subjective symptoms is essential.

I will, therefore, speak of this in more detail. A thorough knowledge of etiologic factors and pathogenesis of tuberculosis is of importance in studying the background of each patient. The principal ones are, recognition of the ubiquity of the tubercle bacillus, the infectiousness of bovine bacilli and the channels of infection by contact, ingestion, inhalation and droplets. An appreciation of the epidemiology of tuberculosis and frequency of infection as is shown by statistical studies, tuberculin reactions and autopsy statistics, throws light upon the widespread occurrence of tuberculous infection.

In the evolution of tuberculous disease from infection, many predisposing factors are to be considered. Prominent among these are, inten-

Paper read at meeting of Chicago Tuberculosis Society, January 11, 1934, as part of a symposium on the early diagnosis of all forms of tuberculosis.

sity of infection, heredity, disturbance of metabolism, anatomical peculiarities, occupation, working conditions, living conditions, habits, mode of life and social and economic status. All of these factors determine the *peculiar human soil* in which the *tubercle bacillus* thrives.

Tuberculous infection is now recognized to be almost universal at the age of maturity. The tuberculous disease which we recognize as clinical tuberculosis is now considered the manifestation of immunity, and caused by the temporary failure of this immunity. This failure of immunity is especially common in young adults between the ages of 15 and 25, when, due to the increased physical and developmental strain, symptoms frequently develop. These symptoms manifest themselves as general malaise, weakness, loss in weight, anorexia, slight temperature, pleurisy, protracted colds and hemoptysis. Frequent colds and grippal infections of insidious onset are especially important as the earliest manifestations of tuberculosis. These colds when carefully studied, however, differ from the usual gripped infections in their lack of symptoms of nasal and upper respiratory disease. The onset is very insidious and the course protracted, the cough often lasting several months. When studied carefully, patients presenting one or more of the above symptoms under the circumstances mentioned, also show certain physical signs which aid us in the diagnosis.

In examining the chest during the very early stages, inspection and palpation will elicit no changes. Percussion will show impaired resonance and retraction in one of the apices. On auscultation over this area, the most constant and most important early sign is the prolongation of the expiratory phase of the respiratory murmur. Although widespread rales are of no importance in the diagnosis of early pulmonary tuberculosis, the presence of a small number of localized rales over the suspected area is of great importance. These rales are frequently absent during ordinary auscultation and present only when provoked by cough. These provocative rales can best be brought out by patients gently coughing at the end of the expiratory act. When these rales are present constantly, over the localized suspected area, in the patient suspected of tuberculosis because of the previously mentioned symptoms, they are almost pathognomic of active pul-

monary tuberculosis and rank next to the finding of tubercle bacilli in the sputum in diagnostic value. A localized increase of whispered vocal resonance, is also of much value. This is especially important because tubercle bacilli are usually absent in the sputum at this stage.

The use of the x-ray, although of great importance in the diagnosis and differential diagnosis of pulmonary pathology, is of little value during very early stages of pulmonary tuberculosis, as the pulmonary infiltrative process which constitutes the pathology of these cases, do not cause definite x-ray shadows.

Let me say that more careful attention to the subjective complaints and physical background including past illnesses, family history and all other etiologic factors of the patient is necessary to enable one to make a diagnosis of tuberculosis at the earliest possible time.

A careful investigation of the physical background implies a careful study of all the etiologic factors predisposing to tuberculous infection and to the development of disease. The presence of these in a patient with suspicious symptoms requires careful watching of such an individual over long periods of time for the development of positive evidence or until all suspicious signs or symptoms shall have completely disappeared. It should be recognized that at this very early stage a *definite diagnosis* is *impossible*.

For the correct treatment of this most important group of patients from which are recruited a large number of the advanced cases of the future, it is necessary to recognize a *suspect stage* of tuberculosis in addition to the generally recognized, incipient, moderately advanced, and far advanced groups.

The general acceptance of this diagnosis of *suspect tuberculosis* as a good clinical diagnosis will do much in promoting early diagnosis and instituting correct early treatment. The treatment at this stage may be very simple, need not seriously inconvenience the patient or family and need not stigmatize him with being consumptive. It may only require a short period of rest, or change of conditions, or character of employment, improvement of diet, or correction of habits.

During the past 25 years of teaching and practice when I have so classified my cases, most of



these patients never advanced to a positive diagnosis; those that did had the therapeutic benefits of an early diagnosis.

This method of management will not bring much dramatic appreciation on the part of the patients or liberal pecuniary rewards; but it *will* give one the satisfaction that he is doing constructive humanitarian work, and, in practice and teaching, is making a real contribution to the prevention and treatment of pulmonary tuberculosis.

310 S. Michigan Ave.

## FIVE YEAR FOLLOW-UP REPORT OF AN INFANT WELFARE CLINIC

With Special Reference to Dental Caries

GEORGE F. MUNNS, M. D.

WINNETKA, ILL.

August, 1932, marked the fifth year the municipal Winnetka Infant Welfare Clinic had been in existence. At this time it was decided to hold a "round up" of children over two years of age who had attended the clinic. The age limit for regular attendance is two years. During this five year period our total registration had been two hundred and fifty-seven (257) children. Of this number sixty-one (61) children were under two years of age at the time of the "round up" hence they are not included in this report. The clinic is held once a week, the average attendance being about eight to ten babies. We request the mothers to bring their babies at least once a month. They are welcome to come as often as they please. Many of them come twice each month, a few three times. It is apparent that the clinic is small, hence this report has the disadvantage of having comparatively few cases but the important advantage of the closer contact, better acquaintance and probably of closer and more accurate supervision and observation made possible by a smaller group at the same time following methods commonly prescribed in larger clinics. All of the children are from families in the lower income group of the community. Few or none of them would have regular pediatric care if it were not provided by the clinic. It is interesting to note in view of present-day controversies concerning medical economics, that although the clinic is open to any resident in the city, the attendance has been almost without

exception from the aforementioned income group.

Winnetka (Illinois) is a north short suburb of Chicago. Population 12,000.

The purpose of the clinic is not different from that of most infant welfare clinics. We endeavor to educate the mothers in the proper care and feeding of the infant and young child, and to see that this knowledge is properly used for the child's welfare. The physician is assisted by two health department nurses who also act as school nurses for the city. We treat no illness, any child needing care for an illness is immediately referred to his family physician. We attempt to maintain a feeling of friendly co-operation with the mothers and carefully avoid all show of authority. We desire to foster as much as possible the closer relation of physician and private patient rather than the undesirable "clinic to case" attitude. We have not confined the work to the care of the physical condition alone. Our routine instructions are devised to avoid many of the more common "behavior problems" such as bed-wetting, tantrums and food refusal. The mothers are requested to bring to our attention any behavior difficulty as soon as it appears. I believe we have "headed off" by this method many potentially serious behavior problems. The more detailed report on appetite, given later, bears out this impression.

Only forty-five children over two years of age who had been in attendance in the clinic up to the age of two years came to the "round up." We had hoped for a larger number, but the economic difficulties of the times had caused many of our families to move to other localities.

Forty-five children is a comparatively small number from which to draw conclusions. However, on checking our findings several factors seemed important enough to warrant the writing of this report. Most important of these was the very apparent good physical condition of all of these children. No serious physical defect was found among them and on that score alone we felt that the work had been worth while. I cannot help but mention here the deep feeling of satisfaction that all of us felt as these children gathered, ready for examination and one by one passed before us. The opportunity of having forty-five children, whose physical development you had closely supervised during their first two years of life, their ages now ranging from two

to six years, all congregated at one time for a check-up examination is a somewhat unusual experience.

*Method of Examination.* Owing to the fact that one physician had to see each child during the course of one afternoon and in order to avoid making the "round up" too tedious an affair for all concerned it was decided not to have a detailed physical examination, but rather to concentrate on certain points which would be of greatest importance in the reflection of results of prescribed care.

Height and weight were recorded routinely and as that was being done three questions were asked of the mother. 1. Whether the child had been immunized to diphtheria and smallpox? 2. Whether the child had had a severe illness? 3. Whether the appetite was good, bad or indifferent? Next there was an examination of the teeth and mouths by competent dentists. These men recorded the incidence of carious teeth and malocclusions. Finally the child came to the physician for general examination. Here we considered in particular, general appearance and condition, evidence of deformity, rachitic or otherwise and the condition of the heart and lungs. The mouth and teeth were again checked and the mother again questioned concerning the occurrence of serious illness and whether the appetite was good, bad or indifferent.

*Height and Weight Figures.* Average height and weight statistics leave much to be desired in expressing a true picture of the nutritional state, but they do form a rather important background for our estimation of growth and nutritional progress. In order to spare the reader the rather tiresome perusal of separate figures for each child I shall list the comparative weights and heights according to age groups for male and female. Of the entire group there was only one child who might have been called underweight according to standard statistics. This girl was six and one-half years of age. She first came to the clinic at the age of about one and one-half years and has always been a slim esthetic type of build with small appetite, but has had general good health.

The nutritional state of these children could be generally classified as good. A short description of our diet and feeding instructions might be pertinent at this point. Concisely they were

those commonly used in most pediatric practice today. We have no special or unusual feeding theories or foods to praise. Breast feeding was

Age	Sex	No. of Chil- dren	Weight		Weight Average Pounds	Height Range Inches	Average Height	
	Male Fe- male		Range Pounds	Inches			Mis.	
2-3	m	4	31	-35	32.4	35.7-37.7	36.8	3 girls under 30 pounds
	f	6	26	-35	30.0	32.2-35.5	34.5	
3-4	m	4	27½	-43	36.5	36.0-41.7	39.9	
	f	6	29	-35¾	31.5	35.7-39.7	37.6	
4-5	m	8	33	-45½	38.8	40.0-43.0	41.3	
	f	4	35	-48	40.0	40.7-43.0	41.7	
5-6	m	5	39	-44½	42.3	43.2-45.0	43.9	
	f	5	41	-53¾	46.5	41.5-48.5	44.7	
6-7	m	2	44	-46	45.0	44.0-46.0	45.0	
	f	1	39		39.0	A slim esthetic type since in- fancy. Appetite small.		

encouraged and in the instances where possible continued until the baby was ten months of age. Complementary and supplemental bottle feedings were given when necessary, and were limited to either whole cow's milk or evaporated milk formulas. Dextrin maltose, cane sugar or corn syrup were used for the additional carbohydrate. There were comparatively few mothers who were always able to supply an adequate amount of breast milk. At first we limited formulas to calculated amounts, but now prescribe what we are sure is enough and let the baby have what he wants of it. We have always kept the added carbohydrate at a comparatively low proportion, feeling that milk which is too sweet often may be one cause for refusal of less sweet foods when we desire to add them to the diet. Checking back on the charts of the older children I find that today in common with present day pediatric practice we begin spoon feedings of cereal and vegetables much earlier than we did with those children. At that time, spoon feedings of cereal were not begun until sometime in the fourth month and in several instances not until the fifth month, although cereal in the form of barley flour was given in the formula by the end of the second month. We now offer spoon feedings of cereal at three months and usually they are taken without difficulty. Vegetables were not offered until the sixth month as a rule; now we offer them shortly after the baby takes the spoon feeding of cereal well. Egg yolk or other foods such as cooked and raw fruits were never offered before the sixth month. At present, egg yolk is frequently offered in the third month, raw fruits



and vegetable shortly after cooked vegetables have become a part of the diet. Then and now, in the tenth month these children were and are receiving a wide variety of foods, including vegetables, meat, fruit, cereal and boiled whole unsweetened milk.

The tendency to give vegetables and other foods at an earlier age is rather general in pediatric practice today and some men offer these foods at an even earlier age than we. So far our observations do not lead us to believe that a matter of one or two months makes much difference in the physical condition of the infant as far as the giving of vegetables is concerned. We do favor as wide a variety of food as early as possible believing that among other reasons it is conducive to better appetite and fewer feeding difficulties at a later age.

At ten months most of the babies are on a three meal schedule. The larger meal is offered in the middle of the day, but all are permitted to have all they want at each meal. Food is offered in coarser form as soon as the baby has several teeth and is able to masticate food fairly efficiently. The baby is encouraged to feed himself at any age he evidences a desire to do so and no food is ever forced.

Cod liver oil and orange juice are prescribed at the first clinic visit and care is taken to see that they are given regularly while the child is under our care. All babies receive a minimum of three teaspoonfuls of a standardized oil and two ounces of orange juice daily. Occasionally, if indicated, the cod liver oil is increased to four or five teaspoonfuls daily and the orange juice to any amount the baby desires if it agrees with him.

*General Condition.* As one examines numbers of children in private and dispensary practice the general appearance and actions of the child of course come to have an important significance and relation in an estimation of the state of health. Minor defects and abnormalities or even major deformities may occur, any of them per se not inimical to good health but perhaps assigned to great importance unless considered in their relation to the whole child. For instance, one child may have unusually large tonsils. If this child is strong, healthy and vigorous, has good color and is not subject to frequent throat infections or other illnesses in which bad tonsils

might play an important etiological role we hesitate to condemn the tonsils for their size alone. As the unclad children in turn passed before us we recorded our impression of their general condition—arbitrarily setting our standards at good, fair and poor.

On checking our records we found that each child had received a grade of "good." Under the circumstances one might say that prejudice and personal interest on the part of the examiner influenced the results. We tried to be as critical as possible and I believe the record is accurate.

This was a genuinely healthy group of children.

*Heart and Lungs.* Heart examination revealed an abnormality in only two children. Both of these children had a systolic murmur, the only abnormal finding. Judging from the children's history and subsequent check-up examinations we believe both of these murmurs to be of the functional type. No child in the group gave a history of having had heart disease since they had passed the age limit of the clinic. According to our records none of them had had such an affliction while under our care. Although most of these children came from the social class in which we expect to find juvenile heart disease more prevalent, they were below the age level at which it is most likely to occur and our findings may be of no significance.

The lung findings were negative in all children examined. One child gave a history of having had several attacks of bronchial asthma.

*Rickets.* Gross evidence of rickets was found in only one child. This child was four years of age, a boy, weight thirty-four pounds. He had always been irregular in clinic attendance and during his second year received no cod liver oil. This boy also had four carious teeth.

*Appetite.* One of the early instructions given a mother when she first brings her child to the clinic is "never force the baby to eat when he does not want to eat."<sup>1</sup> We emphasize that in no case shall she ever force her baby or child to eat. We tell them what food to use, assure them that the child will eat all that he needs if he is let alone and urge her to come to us immediately with any problem concerning food or feeding rather than attempt to solve it without assistance.

1. Aldrich, C. Anderson: "Cultivating the Child's Appetite."

These instructions are repeated many times to the mother during the period the baby is attending the clinic.

The result was most satisfactory—the report on appetite without exception was “good.” Compared to what one experiences as a rule in private practice this record is rather startling and may indicate that the manner in which food is offered is about as important as the kind of food the child receives.

*Illness.* All mothers were asked if the child had ever had an illness which in her opinion was serious. All but two reported that there had been no severe illness. Two children had had pneumonia with prompt uncomplicated recovery. One had had a mild scarlet fever. All mothers felt that the general health had been very good.

During this five year period we could learn of only one death in the group of children who had attended the clinic. This death occurred in a two-year-old child following pertussis and bronchopneumonia. During the five year period there were no deaths among the infants under one year who attended the clinic. The death rate under one year for this particular area is about forty per thousand live births, the death rate for the one to two year of age group is 4.5 per thousand.

*Immunization to Smallpox and Diphtheria.* Thirty-two children had been vaccinated for smallpox. Thirty-six had received toxoid or toxin anti-toxin.

*Teeth.* In view of the great quantity of recent work concerning the influence of various foods, acids, bacteria and vitamins upon tooth decay, we were particularly interested in the incidence of dental caries and malocclusion among these children. Two competent dentists assisted in this examination.

Age Group Years	Number of Children		Incidence of Caries		Incidence of Malocclusion		Percentage of Caries Total Group	Percentage Caries		Percentage of Malocclusion	
	M	F	M	F	M	F		M	F	M	F
2-3	4	6	0	0	0	0	00.0	00.0	00.0	00.0	00.0
3-4	4	6	1	1	0	1	20.8	25.0	16.6	00.0	16.6
4-5	8	4	6	2	1	2	62.5	75.0	50.0	12.5	50.0
5-6	5	5	5	4	2	2	90.0	100.0	80.0	40.0	40.0
6+	2	1	2	1	1	1	100.0	100.0	100.0	50.0	100.0

We see that dental caries was totally absent among the two to three year group, then gradually increases from 20% in the three to four

year group until including all ages under six years the incidence for the entire group is 45%. This figure is considerably influenced by the five to six year group for among them the incidence is 90% Ten of this age group were examined and nine had carious teeth. Twelve children were in the four to five year group and eight of them or 66% had one or more carious teeth. Among twenty children under four years of age in only two instances or 10% was dental decay found.

Only four children had four or more carious teeth—three of these children were over five years of age and two of them had not attended the clinic regularly in their first year. Four children of the total group had four carious teeth; all of these children were past four years of age. Two children had three carious teeth, one of these was over six years of age. Six children had two carious teeth and the youngest child in this group was three years old. The other five were four years or older. Three children, all over four years old had one carious tooth. In none of these children was there extreme caries, and most of the decay was of an early mild type.

The percentage of caries ran slightly higher among the boys.

Malocclusion occurred in 19% of the children, chiefly a mild type. The girls showed this defect more frequently than the boys, 24% among the girls, 14% among the boys.

Evaluation of the significance of the above figures is somewhat difficult. Figures on the incidence of dental decay among children as young as most of these children were, are difficult to find. D. C. Lyons<sup>2</sup> working with children of pre-school age in England found that 26% of a large group under three years of age had one or more carious teeth and between the ages of four to five years the condition greatly increased. Lyons examined several thousand children in Birmingham, England, ranging in age from eighteen months to five years. He found caries occurring in 2.3% of the children under two years of age, but increasing rapidly to 52.3% at the four to five year age.

Coffin<sup>3</sup> in the United States reported a 51%

2. D. C. Lyons: Dental Problems of the Pre-School Child from the Public Health Standpoint. Jour. Public Health Nursing, 24:267-270, May, 1932.

3. D. C. Lyons: Dental Problems of the Pre-School Child from the Public Health Standpoint. Jour. Public Health Nursing, 24:267-270, May, 1932.



incidence of dental defects in a group of children just about to enter school.

Stoughton et al<sup>4</sup> examined 12,435 children of this country, ages five to nineteen years. The examinations were made in Georgia, Illinois, Missouri and Maryland. He found that at six years 87% of these children had decayed or filled temporary teeth and that 20% of them had one or more permanent teeth decayed, filled or missing.

In the group of children of six to eight years of age 90.2% of the boys had one or more decayed or filled teeth. 89.6% of the girls had decayed or filled teeth. 57% of the boys and 56% of the girls had five or more decayed or filled teeth.

Comparing our figures to these it is quite apparent that the incidence of caries among children of our group under four years of age is low. We had no caries under three years while in Lyons' group it was found in 26% of the cases. As the children approach six years of age we find the incidence of caries in our group to be very close to the figures reported by Stoughton.

It is not our intent here to advance any theory or to support any one theory concerning the cause or care of dental caries nor is it necessary to review the literature on that point for this task has been done efficiently and recently by several competent men among them E. H. Hatton,<sup>5</sup> R. W. Bunting,<sup>6</sup> and R. G. Kesel.<sup>7</sup>

Whether our low incidence of caries under the age of four years is due to pre-natal influences (deciduous teeth are almost completely calcified at birth) or to the type of food and supposedly adequate supply of vitamins these children receive during their first two years of life we make no claim. It would be interesting to examine these children several years after the permanent teeth have erupted for all of these teeth, with the possible exception of the second and third molars, start their growth before the end of the pre-school period and if diet is a factor in dental decay they should be greatly

affected by the type of food taken during that time.

We do feel that good teeth are an essential and a usual part of the picture of good health, and that proper food balance plays an important role in both of these things. We are inclined to believe that caries is not the product of one influence alone nor its prevention made possible by the control of one factor alone such as mouth acidity, mouth bacterial flora, adequate vitamin content of food, sugar and other carbohydrates, or roughage content of the food and the relative amount of mastication it requires. It would seem more logical to consider caries as the result of several important factors, possibly the combination of several or all of the above commonly suggested causes and in relation to deciduous teeth there is probably a prenatal influence as well.

In this group of children the incidence of caries was comparatively low among those who had been away from the clinic supervision of diet and care a short time—two years or less, but among the older children tooth decay occurred almost as frequently as it had been reported to occur among other groups of children studied by other workers.

Upon examination of our figures on the incidence of dental caries among this group of children we wondered about the incidence of tooth decay among other groups of children of similar age in the same community, on the average coming from a higher income group. For comparison we examined the teeth of a group of nursery school children their ages ranging from two to five years, and a group of kindergarten children all between five to six years of age. The results of this survey are interesting and will form the basis for a future more detailed study.

#### NURSERY SCHOOL

25 Children—Age, 2-5 Years

Age .....	2-3	3-4	4-5	Total
Number of children.....	3	7	15	25
Number with carious teeth.....	0	0	1	1

In only one child was dental caries found. This girl had five carious teeth—an incidence of four per cent.

Kindergarten—age five to six years. One hundred and forty children examined.

These children attend kindergarten in three schools in widely separated parts of the city.

4. A. L. Stoughton, V. T. Meaker: Dental Decay and Cariations Among School Children of Different Ages, etc. Public Health Report, 46:2608-2623, October 30, 1931.

5. E. H. Hatton: Dental Caries—Resume of Our Knowledge, etc. Jour. Amer. Dental Assoc., 1393-1403, August, 1932.

6. R. W. Bunting: Dental Caries—Review of Recent Researches. Jour. Amer. Dental Assoc., 18:785-806, May, 1931.

7. R. G. Kesel: What Do We Know About Caries, etc. Jour. Amer. Dental Assoc., 19:903-917, June, 1932.

## "A" SCHOOL

		Number having caries teeth	Per cent. having caries
Total number children.....	58	22	37.9
Total number girls.....	21	6	28.5
Total number boys.....	37	16	43.2

## "B" SCHOOL

		Number having caries teeth	Per cent. having caries
Total number children.....	42	22	52.3
Total number girls.....	18	10	55.5
Total number boys.....	24	12	50.0

## "C" SCHOOL

		Number having caries teeth	Per cent. having caries
Total number children.....	40	10	24.3
Total number girls.....	18	5	27.7
Total number boys.....	22	5	22.7

## COMBINED SCHOOLS

		Number having caries teeth	Per cent. having caries
Total number children.....	140	54	38.2
Total number girls.....	57	21	36.8
Total number boys.....	83	33	39.7

Comparing the nursery school group with the clinic group of similar age we found the incidence of caries much lower among the nursery school group, amounting to only four per cent. while among the clinic group of twenty-two children between two and five years of age the incidence of caries was 45.4 per cent. Furthermore, there is a significant difference between the figures of our five to six year group and the school five to six year group. Caries being found in nine of ten clinic children or 90% but occurring among only 38.2% of the kindergarten children. Further there is a significant difference in the percentage of caries occurring in the three separate schools. 37.9% in A, 52.3% in the second (B) and 24.3% in the third (C). Examining our school districts we find that the incidence of dental caries varies in direct relation to the economic status of the families comprising that particular school district. Thus in the "C" school district in which the incidence of caries is very low compared to the other two districts there are few if any families who might be classed in the low income group. There are more of this group in the "A" school district and a great many more in the "B" school district where caries is more than one hundred per cent more common than in the "C" district.

Explanation of this wide variation in the figures possibly may be found in the effect of several different influences. Remembering that

deciduous teeth are usually completely calcified before birth we wonder about the state of health of the mother during the pre-natal period, her diet, the frequency of her pregnancies, etc. Concerning the child itself we think of the many factors that may play a part in tooth decay according to late theories. We hope to make a more intensive study among this group of school children in the near future and hope to find some reason to explain the varying occurrence of caries in different groups and possibly to discover at least a partial solution of why some children have extensive caries at this age while others are not affected.

## COMMENT AND CONCLUSIONS

The results of observation on a group of children ages two to six years most of whom since birth had been under infant welfare clinic supervision are reported.

The report on the incidence of dental caries in this group of children is of particular interest in view of our close supervision of their diet during their first two years of life also because of our intimate knowledge of the economic status of the respective families. Our figures, together with those compiled from the kindergarten group of children seem to indicate that dental caries occurs almost in direct relation to the economic status of the group, caries being more common among the children from lower income groups. However, several children known to be from families of a high income group and who are known to have had regular pediatric care from birth were found to have as extensive or more extensive caries as was found among any of the children from the lowest income group. This fact suggests to us the probable importance of pre-natal influence upon dental caries among pre-school children.

Comparing our figures on the clinic group up to the age of four years with those of other investigators we find the incidence of dental caries comparatively low and this fact possibly indicates that proper food and vitamins during infancy play an important part in the prevention of dental decay in the deciduous teeth.

The good logic of never forcing a baby or child to eat against his will is shown by the complete absence of an "appetite problem" in this group of children. Furthermore, the apparent absence of any form of serious behavior prob-



lem among these children indicates that an attempt by any individual or clinic to cooperate with the mother in solving incipient or early behavior difficulties can be successful.

In general, the physical status of this group of children indicates that modern pediatric knowledge as applied to groups of children under free clinic care produces satisfactory results, as evidenced by the uniform good health, low incidence of serious illness, low mortality and absence of significant or serious physical defects among them.

### RHEUMATIC DISEASES AND SORE THROAT WITH REFERENCE TO HEMOLYTIC STREPTOCOCCI

ISADORE PILOT, M. D.,

CHICAGO

and

DAVID J. DAVIS, M. D.,

CHICAGO

In studies of the bacterial causes of sore throat the hemolytic streptococci appear to be outstanding etiologic agents. Diphtheria bacilli, the pneumococci and other microorganisms cause angina but the most frequent bacteriologic findings in acute throat infections are the hemolytic streptococci. Acute follicular tonsillitis and the more intense form, referred to as septic sore throat, many acute upper respiratory infections, some resembling influenza, yield in cultures made at the onset predominating or pure numbers of hemolytic streptococci. Aside from "colds" the infections with the streptococci are to be considered the most common acute infectious condition. The throat infections associated with a characteristic rash are grouped as the distinct clinical entity, scarlet fever, and bacteriologic evidence points strongly to hemolytic streptococci as the cause of the sore throat and the specific toxin as the cause of the skin rash. The great frequency of scarlet fever in young children and the associated complications that may lead to fatalities have stamped this disease as an important one in public health work and preventive medicine. Experience with sore throat due to hemolytic streptococci without scarlet rash has demonstrated

that in similar age groups tonsillitis may be as serious as scarlet fever, particularly in the tendency to complications and sequellae.

Patients with tonsillitis are often bedridden for one or more weeks and frequently develop cervical adenitis, acute otitis media, mastoiditis, peritonsillar abscess, all of which prolong illness and occasionally lead to an unfavorable outcome. As a rule streptococcus tonsillitis is a mild disease but at times, like scarlet fever, the infection may assume marked virulence of serious character. The importance of the throat infections due to hemolytic streptococci is further emphasized in a consideration of the possible sequellae. Public health interest in sporadic or epidemic tonsillitis or sore throat lags because the condition seldom leads to immediate fatalities and not until discovered in epidemic severe form where milk may be suspected is control attempted. Occurring largely in young adults and children the disease leaves its mark in complications of heart, joint, and kidney that resemble and cannot be differentiated from the rheumatic states. Indeed 50% or more of rheumatic patients will give a history of an antecedent sore throat or upper respiratory infections. As will be pointed out later our findings have led us to believe that the hemolytic streptococci of the original infection persists in the throat of patients who develop rheumatic complications. It would appear that the control of sore throat and a considerable proportion of rheumatic diseases may depend on the control of hemolytic streptococcus infections. More studies of the mode of infection and spread by these organisms in sporadic infections and mild epidemics are necessary.

In both scarlet fever and streptococcus sore throat practically all patients survive the initial symptoms at the onset and the succeeding few days. From this primary stage excepting for occasional adenitis and otitis media, the patient as a rule recovers. While convalescing during the second, third or even fourth week from the onset, in some patients fortunately few, a recrudescence of fever, soreness in throat may occur that may be associated with polyarthritis, endocarditis, glomerulonephritis, or erythema nodosum. The arthritis and endocarditis usually is the type that is referred to as rheumatic and only exceptionally may be of the septic type. This recrudescence stage may be referred as the secondary acute. The interval of two weeks or more suggests an

From the Department of Pathology and Bacteriology, University of Illinois, College of Medicine, Chicago, Illinois.

Read before American Public Health Association, Oct. 25, 1932.

allergic phase of the streptococcus infectious state. In some instances joint pains may persist after the acute symptoms subside and in such instances a chronic state of infection prevails. In both the secondary acute and in the chronic conditions examination of the throat will reveal enlarged, congested tonsils or enlarged red lymphoid tissue in the pharynx when tonsils are out, indicating that the infection is still active. A culture from such throats will yield considerable numbers of hemolytic streptococci.

In our studies of sore throat due to the encapsulated streptococci we were able to follow throat cultures in the various stages. In the secondary acute stage the streptococci could be demonstrated in predominating numbers or in pure culture, often at the onset of the polyarthritides.<sup>1</sup> Our conception of the rheumatic complications and sequellae in these stages is that of persistent infection of the original sore throat streptococci affecting joints, endocardium or skin that react in a peculiar characteristic manner similar to that termed rheumatic.

At this point it may be well to consider further the relationship of rheumatic conditions to throat infections. By no means should it be assumed that all so-called rheumatic arthritis, endocarditis, chorea, etc., always follow sore throat of hemolytic streptococcus origin. Probably in a great or greater proportion other streptococci of the non-hemolytic type or perhaps other agents may be the cause. But a sufficient number of cases are associated with hemolytic streptococci that any future study of the prevention and control of rheumatic diseases must include sore throat prevention. This relationship was emphasized in past studies of focal infection when hemolytic streptococci were found in patients with chronic rheumatic articular, renal and cardiac lesions in connection with bacteriologic examination of tonsils which often harbored pure numbers of these organisms.<sup>2</sup>

In more recent studies of sore throat<sup>3</sup> we noted the persistence of hemolytic streptococci in patients that developed arthritis, endocarditis, glomerulonephritis, erythema nodosum, etc. As a rule the hemolytic streptococci cannot be demonstrated in the blood or in the joints. One must assume, therefore, that either another cause is responsible or that the toxins or minute members of the streptococci localize in hypersensitive tissues of joints, endocardium, kidney or skin.

There is strong evidence that such allergy to streptococci or their products leads to rheumatic lesions. The rheumatic complications as a rule, occur 2 to 5 weeks after the initial sore throat, an interval during which hypersensitiveness to streptococci may develop. In our own experience rheumatic persons will react by exacerbation of joint pains from subcutaneous or intracutaneous injections of streptococcus toxin, or minute numbers of killed hemolytic streptococci. We have also observed that the hemolytic streptococci often disappear from the throat simultaneously with the improvement of the arthritis. A fresh or new infection with hemolytic streptococci in the same person often leads to a recurrence of the rheumatic symptoms. Patients whose tonsils remain large and red often complain of chronic pains in joints (arthralgia). Throat cultures yield frequently hemolytic streptococcus from such persons who can be considered carriers of dangerous streptococci.<sup>4</sup> Upon surgical removal of such tonsils these rheumatic pains disappear. Often the culture made deep from the tonsillar crypts will yield pure cultures of hemolytic streptococci. After such removal the hemolytic streptococci disappear in 1 to 20 days. Persons without tonsils are not necessarily immune from rheumatic disease or from streptococcus infections. Indeed the incidence of various rheumatic disease in children or adults does not differ greatly in those with and those without tonsils. Sore throat may be less frequent but colds and upper respiratory infection seem to be quite prevalent in tonsillectomized persons. We have observed "grippe" like infection with fever and marked prostration in persons devoid of tonsils, whose pharynx yielded pure culture of hemolytic streptococci at the onset of the infection. Milder cases of similar character may be ambulatory and a great factor in the spread of sore throat. Such persons are likewise subject to rheumatic complications but are more apt to make complete recovery from acute polyarthritides and seldom become carriers because of the lack of the establishment of foci in the absence of deep crypts as that of the faucial tonsils.

At this point it would be well to consider the transmission of hemolytic streptococci as it occurs in the ordinary sporadic sore throat. In many instances we have observed the infection spreads to other members of the household when



one person is first affected with follicular tonsillitis. In orphan homes, and in hospital wards as many as 10% may become ill with sore throat when the infection is introduced by a new arrival or develops in one of the inhabitants. In some persons a latent rheumatic state may be activated and lead to serious outcome. These dangers are particularly emphasized as there appears to be a tendency in some institutions to place patients with rheumatic heart disease and arthritis in the same wards or in convalescence homes. Already reports are coming in of the serious recurrences particularly in children, of rheumatic disease in several patients in such homes during or following outbreaks of sore throat or acute upper respiratory infection.<sup>5,6</sup> It would appear advisable to prevent rheumatic persons from exposure to any person afflicted with even ordinary or very mild cases of sore throat, as it may lead to fatal exacerbation of heart involvement if the streptococcus infection is transmitted to the rheumatic patient.

Evidence is being produced that epidemic sore throat and upper respiratory infections are followed by increase in the incidence of rheumatic diseases, particularly acute polyarticular rheumatism. In a epidemic described by Glover<sup>7</sup> he noted the distinct appearance of rheumatism about two weeks after the sore throat epidemic. In milk-borne epidemic septic sore throat, arthritis and endocarditis were noted as complications and sequellae by Davis<sup>8</sup> and Capps<sup>9</sup> in their descriptions of the Chicago epidemic. The complications were described as resembling and as indistinguishable from rheumatic types.

The hemolytic streptococci referred to constitute a group referred to as the Beta type of Smith and Brown. Strains isolated from acute sore throat vary in their appearance. Ordinary small colonies with clear zones of hemolysis constitute the majority of the strains. In about 10% of sporadic cases the streptococci on ascites blood agar form large mucoid colonies of streptococci, which reveal capsules.<sup>10</sup> These strains are referred to as *S. epidemicus* isolated in connection with milk-borne epidemic sore throat. The moist encapsulated streptococci are rarely found in routine cultures of persons (less than 1%),<sup>4</sup> whereas the ordinary type of Beta hemolytic streptococci may be present in 60% or more.<sup>11</sup> This common occurrence of hemolytic strepto-

coccus in the throat has been the source of confusion in relating the hemolytic streptococci to complicating arthritis and endocarditis. In connection with the *S. epidemicus* the relationship is more clear. We have observed pure numbers of *S. epidemicus* at the time of acute polyarthritis and their subsequent disappearance simultaneous with the improvement of the arthritis. Carriers of *S. epidemicus* are often subject to joint pains and upon the removal of tonsils the carrier state is terminated and at the same time the arthritic pains often disappear.

While *S. epidemicus* apparently is responsible for sporadic form of acute tonsillitis or sore throat only in about 10% of cases of tonsillitis under certain circumstances these streptococci lead to epidemic sore throat of large proportion. Most unique in epidemic diseases is the transmission of septic sore throat, epidemic tonsillitis and scarlet fever through the milk of the lactating udder shedding the responsible hemolytic streptococci. Epidemiologic and experimental studies point clearly to infection of the udder by streptococci from human sources. The mastitis may be persistent for many weeks during which time the milk may contain large numbers of hemolytic streptococci. This unique mode of transmission of disease is dependent constantly on a peculiar characteristic of the responsible streptococci which in all such instances proved to be encapsulated streptococci forming characteristic mucoid colonies, the only properties which for descriptive and classification purposes characterize the *S. epidemicus*. Strains of streptococcus from milk-borne epidemics from Chicago, Lee, Baltimore, Portland, Baraboo, Westerlo and Kingston, N. Y., Kirkland Lake, Canada, both from human throats and cow's udder have strikingly and constantly revealed the characteristic large, moist, mucoid colonies on ascites blood agar and capsules in India ink. From the epidemiologic point of view the recognition of the *S. epidemicus* is of the utmost importance in the control of epidemic sore throat and deserves special consideration.

Until recently the distribution of the *S. epidemicus* was noted only in connection with milk-borne epidemic septic sore throat. Active cases, the responsible milk, and the infected udder yielded these streptococci. Occasionally a worker about the dairy harbored the organism and was regarded as a carrier. We have pointed

out that the capsulated mucoid streptococci are more widespread. In humans the carriers in routine cultures constitute about 1%, extirpated tonsils from patients with pathologic tonsils, 12%. Sporadic septic sore throat unrelated to milk in 10% of cases of streptococcus sore throat are due to *S. epidemicus*. In the throat and exudates of scarlet fever patients we have noted<sup>12</sup> as have others<sup>13</sup> recently capsulated streptococci resembling *S. epidemicus* but which still yield the specific toxin of scarlet fever streptococci. In erysipelas similarly an occasional strain isolated is encapsulated and their relationship to *S. epidemicus* of septic sore throat remained to be determined. The situation with reference to *S. epidemicus* of bovine origin has become also more complicated. In addition to isolating these streptococci during epidemics, cultures among herds during quiescent periods with no epidemic of sore throat, will occasionally yield capsulated streptococci from udder.<sup>14,15</sup> These streptococci from mastitis unassociated with sore throat appear to be alike in most characteristics to *S. epidemicus* in their low acid production, inability to hydrolyse sodium hippurate, but Edwards believes differ from human strains by the ability of the udder strains to ferment sorbitol and failure to ferment trehalose.<sup>15</sup>

In a study of the *S. epidemicus* with its peculiar, unique epidemiology may be found the fundamental basis for the behavior of the streptococci and other organisms in the genesis of epidemic or pandemic infection. There is some evidence that capsule and mucoid property may appear under certain conditions among some streptococci of the ordinary Beta type. 50% of strains on passage through mice assumed larger, moister colonies and often distinct capsules.<sup>1</sup> In serum broth Brown & Kindwell<sup>17</sup> observed similar changes. However, in other experiments two strains on 26 successive passages remained unchanged although the virulence was markedly increased.<sup>1</sup> The recent work of Robinson and McComb<sup>18</sup> similarly demonstrated that an ordinary Beta type of hemolytic streptococcus inoculated into udder of cow did not assume the appearance of *S. epidemicus* after 4 months of mastitis. It would appear, therefore, that some strains of hemolytic streptococci are subject of variations while others remain fixed and unchanged.

The streptococcal diseases vary in their fre-

quency in different regions of the United States and the different countries of the world. Unfortunately statistics on incidence of septic sore throat and rheumatic diseases are very meagre. However, the figures available on scarlet fever and erysipelas reveal that particularly scarlet fever is a rare condition in southern states, in the warmer or tropical regions and the very cold countries. The differences in erysipelas are not as striking. Little data on the distribution of the hemolytic streptococci in these various sections of the world is available. Coburn<sup>19</sup> noted the disappearance of hemolytic streptococci in the throat of rheumatic patients when sent to Porto Rico, simultaneously with improvement of the rheumatic condition, which recurred when the patients returned to New York and again revealed hemolytic streptococci in their throats. He stressed the relationship of the incidence of hemolytic streptococci in the throats of rheumatic patients and emphasized these organisms as important factors in the manifestations of rheumatic lesions. Like scarlet fever and perhaps sore throat, rheumatic fever in available statistics<sup>20</sup> is rare in the tropics and less common in the warmer sections of the mid-temperate zone than in the colder regions. Warm, dry sections apparently are unfavorable for hemolytic streptococci in throat as well as inhibitory to the development of rheumatic fever. Damp and cold weather is emphasized and noted especially in Great Britain as favorable for the development of sore throat and rheumatic arthritis<sup>21</sup> and accounts for the variations in the seasonal incidence.

A distinct increase of acute rheumatic infections was noted to appear by Glover<sup>7</sup> who described epidemics of tonsillitis and rheumatic fever where the peak of the tonsillitis epidemic was followed in about two weeks by peak of rheumatic fever incidence. Among 3,530 boys, 427 developed acute sore throat, of which 41 subsequently came down with rheumatic fever. A similar wave of rheumatism following tonsillitis due to hemolytic streptococci was also noted by Bradley, among public school children, one wave appearing in November, another in March.<sup>22</sup> In connection with milk-borne epidemics of septic sore throat the spring and fall appear to be the most favorable seasons for outbreaks.

More studies on the geographical and seasonal variation of hemolytic streptococci in throat are



needed as well as statistics on sore throat and rheumatic fever in relation to these organisms. The popularity of certain sections of the country or the world for rheumatic diseases may be due to climatic conditions unfavorable for the persistence of the responsible streptococci in the throat.<sup>9</sup>

*Summary:* Hemolytic streptococci in addition to scarlet fever, septic sore throat, may be important factors in a considerable proportion of rheumatic diseases.

Both sporadic and epidemic sore throat or tonsillitis may be followed by increase in acute rheumatic diseases. The control of rheumatic diseases must include the prevention of sore throat by hemolytic streptococci.

In connection with the *S. epidemicus*, a variety of hemolytic streptococci, sore throat due to these streptococci may be complicated by polyarthritis, endocarditis, apparently of rheumatic character. The rheumatic complications appear to be associated with the persistence of *S. epidemicus* in the throat.

Climatic conditions seem to be important factors in the incidence of sore throat and rheumatic diseases.

#### BIBLIOGRAPHY

1. Pilot, I., and Davis, D. J.: *J. A. M. A.* 97: 1691-1696, 1931.
2. Davis, D. J.: *J. Inf. Dis.*, 10: 148-161, 1912.
3. Pilot, Isadore: *Arch. Otolaryngology*, 15: 71-79, 1932.
4. Pilot, I.; Davis, D. J., and Hollman, B.: *J. Inf. Dis.*, 47: 503-506, 1930.
5. Boas, E. P., and Schwartz, S. P.: *Am. Heart Jour.* 2: 375-386, 1927.
6. Hiller, R. I., and Graef, I.: *Am. Heart Jour.* 3: 271-278, 1928.
7. Glover, J. A.: *Lancet* t. 1: 499-505, 1930.
8. Davis, D. J.: *Oxford Medicine*, 2: 1, 1920.
9. Capps, J. A.: *Nelson's Loose Leaf Medicine*. 2: 24.
10. Pilot, I., and Davis, D. J.: *J. Inf. Dis.* 47: 507-510, 1930.
11. Pilot, I., and Davis, D. J.: *J. Inf. Dis.* 24: 386, 1919.
12. Pilot, I.; Lampert, M., and Davis, D. J.: *J. Inf. Dis.* 48: 498-500, 1931.
13. Wheeler, M. W.: *J. Prev. Med.* 4: 1-13, 1930.
14. Frost, Thomas and Hadley: *J. Inf. Dis.* 46: 240-252, 1930.
15. Edwards, P. R.: *J. Bact.* 23: 259-266, 1930.
16. Pilot, I.; Davis, D. J., and Hallman, B.: *J. A. M. A.* 95: 264, 1930.
17. Brown & Kindwell: *Proc. Am. Ass. M. Milk Commissions* 109, 1928.
18. Robinson, E. S., and McComb, J. A.: *J. Inf. Dis.* 51: 292-297, 1932.
19. Coburn, A. F.: *The Factor of Infection in the Rheumatic State*. 1931.
20. Longscope, W. T.: *Annals of Internal Medicine*, 5: 401-407, 1931.
21. Miller, R.: *Proc. Roy Soc. Med. Lond.* 21: 997-1012, 1927-8.
22. Bradley, W. H.: *Quarterly J. Med.* 1: 79-98, 1932.

## A CASE OF FRIEDLANDER'S BACILLUS MENINGITIS SECONDARY TO BILATERAL ACUTE OTITIS MEDIA

G. HOWARD GOWEN, M.D.

CHICAGO

This case is being presented because the etiological agent, Friedlander's bacillus (*B. mucosus capsulatus*), uncommonly causes meningitis, and because it illustrates the slow progress of such infections, the resistance to treatment, and the tendency toward serious complications.

Acute meningitis due to Friedlander's bacillus has been reported at intervals.<sup>1 2 3 4 5</sup> It frequently occurs as a terminal complication of acute otitis media and mastoiditis,<sup>1 7 8</sup> but may also follow influenza.<sup>9</sup> In a review of the literature to 1930,<sup>6</sup> out of 12 reported cases, 3 recovered but due to the inaccuracy of the bacteriological diagnosis, it is doubtful if the recovered cases were actually due to Friedlander's bacillus.<sup>10</sup> One case of recovery following this type of meningitis has been reported in which the etiological agent was definitely proven to be a member of the Friedlander group.<sup>10</sup> The insidiousness of invasion and obscurity of symptoms seems to be rather characteristic of disease caused by capsulated bacilli of this group.<sup>7 8 11</sup> In a review of the literature to 1931,<sup>10</sup> it would seem that once this pathological condition has been diagnosed, a fatal termination should be expected.

*Case Report.* The patient, Mrs. G., aged 63 years, had an attack of what was probably influenza in December, 1931, (judging from her history of the ailment), but did not seek medical attention at this time. During the first week of January, 1932, she noticed an exaggeration of the deafness she already possessed which became steadily worse. About the third week in January, she began having rather severe pains behind both ears and especially over the right temporal and frontal regions. At this time I was called to attend her. Physical examination revealed nothing pathological but because of her discomfort, she was advised to consult an otolaryngologist which she did.

From this time until May 5, 1932, Mrs. G. remained under the care of the otolaryngologist. During this period she developed an acute otitis media, first on the left side and subsequently on the right side; in both cases, drainage was established with difficulty, coming on slowly, and being profuse and mucoid in character.

From the Department of Bacteriology and Preventive Medicine, University of Illinois, College of Medicine, the Research Laboratories of the State Department of Public Health, and the Chicago Medical School.

During this period the patient seemed improved at times only to relapse again, particularly in regard to the pain which persisted especially on the right side. I was required to make frequent visits to her, primarily for the purpose of making her comfortable in regard to the pain. An x-ray of both mastoid areas was taken in the middle of April and showed nothing abnormal. On May 5, another x-ray was taken and at this time the otolaryngologist made a diagnosis of acute mastoiditis on the right side and advised immediate surgery. The patient was taken to the Washington Boulevard Hospital for this purpose.

Approximately seven days after the mastoidectomy, the patient developed a tumefaction below the mastoid incision on the right side which followed the posterior border of the sternomastoid muscle. A diagnosis of abscess formation was made and counter-drainage was established from the mastoid incision to the most dependent part of the abscess. A large amount of thick mucoid pus was evacuated. After a three weeks stay in the hospital, the patient was sent home with the mastoid area healed, but still draining from the cervical abscess. From this time until the day of her demise her course was one of a decidedly stormy nature. The abscess would seemingly clear up at times only to start draining again. Twice there was an extension of the abscess posteriorly requiring counter drainage under local anesthesia. Cultures made from the evacuated pus at this time, showed a growth of *Staphylococcus aureus* and *Friedlander's bacillus*. Severe chills were frequent, sometimes lasting as long as ten to fifteen minutes, and associated with rises in temperature as high as 103 to 104 degrees. Headache over the right temporal and frontal region was rather constant although there were times when she felt fairly comfortable in this respect. On two occasions consultation was obtained which yielded no additional information other than a septicemia with the primary focus in the cervical region. General palliative measures were advised. Among the various procedures a vaccine was given. After the fifth injection, a tumefaction developed on the left arm at the site of inoculation which became fluctuant and was incised under local anesthesia yielding thick mucoid pus of the same appearance as that issuing from the neck and substantiating the opinion of a septicemia.

On August 5, 1932, the patient began evidencing mental symptoms and began to vomit. Removal to a hospital was advised and finally on August 8, 1932, she was removed to Wesley Memorial Hospital. An x-ray of the mastoid areas was repeated and the report of the Roentgenologist was as follows: "There is no evidence of cell structure in the right mastoid region. A somewhat round area of increased transparency suggests previous surgical removal of a portion of the mastoid cells. There is no evidence of abscess of the bone in this region. The left mastoid cells appear of slight increased density. The cellular structure appears hazy and indefinite." Blood count showed R. B. C. 3,500,000, H. B. 50%, W. B. C. 22,200.

A consultation advised exploration of the neck. This was preformed under gas anesthesia. A cavity pos-

terior to the sternomastoid muscle, about two inches wide and three inches long extending to the tip of the mastoid bone, was found. Exploration of the mastoid showed no pathology and perfect healing. In spite of all palliative measures the patient's condition became steadily worse and finally death occurred on August 12, 1932. At no time were any pathological reflexes elicited, and both pupils were equal and reacted normally. Immediately after death the left pupil became more dilated than the right. A postmortem examination was made and the important pathological diagnoses are given below.

#### *Pathological Diagnosis.*

1. Acute purulent leptomeningitis.
2. Bilateral thrombosis of the transverse superior petrosal and cavernous sinuses of the dura.
3. Recent right mastoid exploration and surgical drainage of abscess in right posterior triangle of the neck.
4. Pneumonia (early gray hepatization) involving left lower and lower part of left upper lobes.

#### *Bacteriological Report.*

1. Morphology and cultural characteristics.  
Gram negative bacillus.  
Non-motile.  
Capsulated.  
Broth—Turbid, sediment at bottom, slight scum at top.  
Mucoid growth on solid media.  
Acid and gas in maltose, mannite, dextrose and lactose.  
No acid or gas in saccharose.  
Indol not formed.  
Nitrates reduced.
2. Bacteriological Diagnosis.  
*Friedlander's bacillus.*

#### *Summary.*

1. This is a rather unusual case of acute meningitis due to *Friedlander's bacillus*.
2. The predisposing causes were: Influenza, bilateral acute otitis media, and abscess of the right posterior triangle of the neck, occurring in the order named.
3. The causative organism from the time of the onset of the influenza until the demise of the patient was undoubtedly *Friedlander's bacillus*.
4. Infections due to *Friedlander's bacillus* are of long duration, resistant to treatment and have a tendency toward severe complications.
5. In the development of meningitis, the invasion is slow and the symptoms obscure.



6. The prognosis of cases of acute otitis media where the causative agent is found to be Friedlander's bacillus, should be guarded.

I wish to thank Dr. Diekman, pathologist, and Ruth Getty, bacteriologist, at Wesley Memorial Hospital, and Elizabeth Keating of the Chicago Medical School for their cooperation in making the presentation of this case possible.

#### BIBLIOGRAPHY

1. Scheib, A.: *Prag. Med. Wchns.*, 25: 169-171, 1900.
2. Rolly: *Münch. med. Wchns.*, 53: 1285-1288, 1911.
3. Breton and Mahee: *Gaz. Med. de France*, 3: 3-5, 1929.
4. Papandrea, F.: *Pediatrics*, 35: 371-375, 1927.
5. Comte, Levy: Bruhl and Dany, *Bull. et. mem. Soc. Med. d. hop. de Paris*, 47: 139-142, 1931.
6. Cascelli, G.: *Pensiero med.*, 19: 203-205, 1930.
7. Brain and Valentine, *Lancet* 1: 855-856, 1928.
8. Mills, K. C.: *J. Exp. Med.*, 47: 193-206, 1928.
9. Rothschild, K., J. A. M. A., 97: 1956-1959, 1931.
10. Deane and Aberd., *Lancet*, 2: 1237-1238, 1928.

\*Read before the Chicago Pathological Society, May 10, 1933.

## VISUALIZATION OF THE LIVER AND SPLEEN

DICK C. MCCOOL, JR., M. D.

KANKAKEE, ILL.

Within the last two years there has been placed at the disposal of the clinician a new diagnostic procedure—that of visualization of the liver and spleen by means of a drug called thorotrast. A brief review of the literature is herewith given.

Thorotrast is a highly dispersed  $\text{ThO}_2$  solution containing 25%  $\text{ThO}_2$ . It is miscible with all body fluids in all proportions without flocculation or other chemical changes. It is a stable, sterile liquid of milky appearance in reflected light, and clear colorless to brownish transparency in transmitted light. Pharmacologically it is non-toxic and with respect to radioactivity it is relatively inert.

The drug was developed and introduced by Dr. Paul Radt of Germany, who used it in intravenous hepatosplenography.

It has an affinity for the reticulo-endothelial system, which is comprised of the liver, spleen, bone-marrow, lymph glands, adrenal tissue, and the hypophysis; this is shown by its storage in the Kupffer cells of the liver and the reticulum cells of the spleen; it is also found in the adrenals and ovaries to lesser extent. There is a sparse distribution in the lungs by means of Kupffer cells being cast off by the liver into the

blood stream and thus taken to the lungs. The normal kidney contains no deposits of the drug so the finding of such deposits in the kidneys may be regarded as evidence of pre-existing kidney lesion, according to Dr. Dickinson of the University of Toronto.

Practically 100% of the thorotrast is stored by the body. Repeated urine and feces examinations for several days following administration revealed no elimination, and repeated laboratory examination over the first few weeks following administration revealed practically no elimination. Because of the finding in the hepatic veins of Kupffer cells loaded with thorium, and subsequently of their appearance in the lungs it is supposed that the respiratory system comprises the source of elimination from the liver of the drug. This fact was further substantiated by the finding of thorium-loaded Kupffer cells lying free on the epithelium of the trachea. At the end of three months radiograms showed the liver to produce a shadow of 50% less intensity, while the spleen, bone marrow, and lymph glands remained practically the same. Thus far no explanation has been offered for this, but it would seem that in the case of the liver the thorium is deposited chiefly in the Kupffer cells, whereas in the spleen, bone-marrow, and lymph glands it is deposited most largely in the reticulum of these organs, which, together with the adrenals and ovaries, have as yet given no evidence of elimination.

It may be stated that while no definite evidences of microscopic pathology resulting from the storage of thorium have been reported, several leading pathologists are of the opinion that the storage is more or less permanent, and for that reason prefer to wait longer before giving their final opinion as to its action on the various organs, if any.

With these remarks as a preface, the clinical uses of thorotrast may now be considered. By means of intravenous administration followed by radiograms clear outlines or shadows of the liver and spleen are obtained. The technic consists in a daily intravenous injection of 25 ml. of thorotrast for three successive days to be followed on the fourth day by radiograms. Even smaller amounts may be used if only the outline of the organs rather than detail is desired.

A well outlined liver or spleen, smooth and

homogeneous in density, and normal in size and shape is considered for a working basis as being indicative of a normal organ. Any process which interferes with the storage of the thorium will show as dark areas on the negative; for example, metastatic nodules, cysts, tumors, etc. Hypertrophy and atrophy will be seen as enlargement or diminution in the size of the shadows. One caution in radiographic interpretation is not to confuse superimposed gas shadows for organic pathology.

Generally speaking, indications for the use of thorotrast are those in which circumscribed gross pathologic changes are suspected, such as tumors, cysts, abscesses, gummata, etc. Contraindications to its use are conditions of known far-advanced hepatic or splenic pathology such as cirrhosis, splenomegalia, and other diseases involving the entire organ simultaneously. A specific contraindication is advanced renal pathology in which case thorotrast seems to aggravate conditions and hasten atrophy and degeneration of the glomeruli.

It may be of interest to note that this preparation is useful in pyelographic and cystographic work by direct instillation.

In conclusion it may be said that we have at hand a drug which fulfills a long-felt need in medical work in enabling us to obtain definite pictures of the liver and spleen. It has so far been proven efficient, reliable, and harmless in chosen cases, and though it is not yet completely understood, it would seem that the drug offers many unforeseen research and diagnostic possibilities.

#### AMERICAN BIBLIOGRAPHY ON THOROTRAST

1. Dickson, W. H.: Thorotrast—a new contrast medium for radiological diagnosis. *Canad. M. A. J.*, 27: 125, 1932.
2. Gottlieb, R.: The effect of colloidal thorium on the blood picture. *Canad. M. A. J.*, 28: 496, 1933.
3. Irwin, D. A.: The experimental intravenous administration of colloidal thorium dioxide. *Canad. M. A. J.*, 27: 130, 1932.
4. Irwin, D. A.: Kupffer cell migration. *Canad. M. A. J.*, 27: 353, 1932.
5. Kadrnka, S.: Hepatosplenography: roentgenologic demonstration of the parenchyma of the spleen and liver by means of a new intravenous contrast medium (Thorotrast). *Radiology*, 18: 371, 1932.
6. Lewisoohn, R.: Hepato-lienography with Thorotrast. *Surg., Gynec., and Obst.* 55: 68, 1932.
7. Macdonald, I. G.: The use of thorium dioxide as an old to clinical diagnosis. *Canad. M. A. J.*, 27: 136, 1932.
8. Menville, L. J., and Ane, J. M.: Roentgen, visualization of lymph nodes in animals. *J. A. M. A.*, 98: 1796, 1932.
9. Otell, L. S.: The reticulo-endothelial system and its relation to the roentgen study of the liver and spleen after the intravenous administration of the thorium dioxide solution. *Radiology*, 19: 148, 1932.
10. Otell, L. S., and Yater, W. M.: Hepatography and lienography. *Bul. Med. Soc. District of Columbia*, Nov., 1931.
11. Stewart, W. H., Einhorn, M., and Illick, H. E.: Hepatography and lienography following the injection of thorium-dioxidesol (Thorotrast). *Am. J. Roentgenol.* 27: 53, 1932.
12. Tripoli, C. J., von Haam, E., and Lehman, E. B.: Roentgenographic visualization of the liver and spleen in the human. *Am. J. Roentgenol.* 27: 265, 1932.
13. Wiltrakis, G. A.: Hepatosplenography with Thorotrast. *Bul. Ill. State Psychopathic Inst.* 1: 3, 1932.

Kankakee State Hospital.

#### NON-GONORRHEAL URETHRITIS

ANDREW McNALLY, B.S., M. D.,

Assistant Urologist, St. Luke's Hospital

CHICAGO

Inflammatory diseases of the urethra and the complicating adnexal inflammations continue to have as high an incidence as previously in spite of the existing economic situation. A definite percentage of patients presenting themselves with the initial complaint of urethral discharge will be of the non-specific or rather, non-gonorrheal type. At first thought it would seem quite a simple task to make the diagnosis but at times all our diagnostic ability is taxed in making the diagnosis of the underlying pathology. It has been our habit to divide these patients into two groups: Group 1, those with an acute profuse creamy discharge with a reddened meatus and burning on urination which at first sight seems to be specific in nature; and Group 2, those patients whose complaint is a chronic gleet type of discharge.

The etiological factors underlying the acute profuse discharge are at times obscure and may never be definitely settled. The factor of prime importance is the determination of the presence or absence of the gonococcus. For this one daily smear is not sufficient. Numerous smears made on several succeeding days may be needed to find them. If they are of typical morphology and intracellular we do not need the Gram stain or culture but if not typical and not intracellular the findings of the methylene blue stain should be checked with the Gram stain and if desirable, with cultures. A careful inquiry into the immediate past of the patient, especially his sex life and indulgence in alcohol, may bring to light sufficient cause for his present predicament. The following case is a good example of this.

Case 1. C. R. A young white male of thirty-seven years, of fine appearance and with a wide female acquaintance, came to the office in February, 1931, with



a typical acute profuse creamy discharge. He admitted in the past almost daily exposures but stated that for two months before his very recent marriage he had abstained from all sexual indulgence. He had been married but two weeks when the above discharge had appeared.

The physical examination was entirely negative except for the profuse discharge and a reddened meatus. Rectal examination was negative except for soft, distended, somewhat tender seminal vesicles. Repeated careful Gram and methylene blue stains of smears from the discharge revealed no organism of any kind. Regulating the sexual life combined with a short course of urethral irrigations with potassium permanganate of 1-10,000 concentration cleared up the condition completely. There has been no recurrence to date.

Other etiological factors include chemical irritation of the urethra by various substances used to prevent gonorrhea after a questionable exposure. A number of patients have been seen who have produced an urethral discharge by using a fifty per cent. solution of lysol as a preventative. Everyone is familiar with the urethritis produced by foreign bodies in the urethra, especially the indwelling catheter.

The great majority of instances of non-gonorrheal urethritis fall into the second group, those presenting a slight, gleetty discharge, and it is chiefly in this group that we meet our greatest difficulties in diagnosis. Stained smears of the discharge are to be examined first and it is surprising how many of those mild looking discharges will prove to be gonorrheal in origin. After excluding the possibility of a gonorrheal origin the real task begins. All possibilities must be kept in mind and each one excluded or determined as the underlying factor. Rectal palpation of the prostate and seminal vesicles with examination of the expressed secretion excludes or includes these structures as causative factors. The examination of the expressed secretion is of utmost importance as many apparently normal prostates and vesicles to palpation will show pus in the expressed secretion. Included in the rectal examination is the palpation of Cowper's glands between the forefinger in the rectum and the thumb of the same hand on the perineum. Probably these glands are involved more often than is suspected. Keeping these glands in mind and including them in the rectal examination will increase our knowledge of any inflammatory changes occurring in them. Exploration of the urethra with diagnostic or bulbous bougies for the anterior urethra and

with stricture or Van Buren sounds for the prostatic urethra will show us the presence of infiltrations or of actual stricture formation. The external meatus must not be neglected and if it will not admit instruments of full size should be enlarged by performing a simple meatotomy. Any meatus not admitting a Number 26 French scale instrument should be enlarged. An opening sufficient to pass a No. 32 instrument at the time the meatotomy is performed, should be made so that after healing with its slight contraction takes place, a No. 30 instrument passes with ease. Palpation of the penile urethra must not be neglected as a rare case of intraurethral chancre is picked up by feeling the induration along the canal. Obtaining serum from the meatus and examining it under the dark field will reveal the *S. pallida*. In these obscure cases we must not neglect to examine the urethral discharge and the secretion obtained by prostatic massage for the *Trichomonas flagellates* as these cases are being recognized more frequently now their occurrence has been demonstrated.

At times when we have gone through all the above procedures and in many cases after prolonged treatment, the discharge persists and the patient becomes dissatisfied. A careful urethroscopic examination is indicated and in them we may discover some urethral pathology which would be missed unless such an examination were made. These changes include posterior urethral granulations, polyps, inflammatory conditions of the verumontanum or utricle, and inflamed crypts or Littre's glands in the anterior urethra.

The treatment, of course, consists of removal of the cause. In the acute type regulation of the sex life with elimination of alcohol combined with a few injections of some mild instillation or mild irrigations is usually sufficient. Forcing fluids to frequently flush the urethra is advisable. Urinary antiseptics may be tried but their use is of questionable value. In those instances caused by foreign bodies or strong chemical injections the removal of the cause is sufficient.

In the chronic or gleetty type of discharge meatotomy under local anesthesia with gradual dilatation of stricture, if present, is needed. Hot sitz baths and hot rectal douches combined with regular prostatic and vesicular massage once or twice a week usually is rather rapidly effective.

Mild posterior instillations or irrigations in conjunction with the dilatation and the massage is useful. In these cases the patient must be warned that the condition may require courses of treatment over a long period of time. This is especially important in stricture cases as many are seen where treatment is neglected even after urethrotomy, and patients return with filiform strictures and must undergo long and tedious courses of dilatation. Urethral lesions discovered by the urethroscope can be treated by direct application of strong caustics through the urethroscopic tube to these lesions.

At times even after the most exhaustive treatment a slight discharge, usually in the morning, remains, with a few shreds in the first urine. If these patients are symptomatically free one should be satisfied, as shreds will probably be noticed by the patient for the rest of his life.

55 East Washington Street.

## MECHANICAL INJURIES OF THE BRAIN

W. T. COUGHLIN, M. D.

ST. LOUIS, MISSOURI

In former days it was a custom to talk about fractures of the skull. At the present time the fracture of the skull is regarded only as a concomitant of the more serious brain injury and serious brain injury may occur without any fracture whatever. The title of this paper should have been "Intracranial Injuries" since we must consider injury of the dura, of the vessels and of the brain. Some one has said that no injury of the brain is so serious as to be considered hopeless, nor so slight as to be considered trivial. The most seemingly hopeless cases sometimes recover spontaneously while an insignificant injury may result in death. There can not be very much mechanical injury to the brain without considerable force having been applied to the head. Whether the force be applied directly or indirectly, as through a fall on the buttocks or a blow to the side of the neck (when the force is transmitted through the spine) the immediate consequence is always the same—a sudden shock or shaking of the brain substance. Now it is well known that a sudden shock or blow applied to a nerve trunk, even though it be not strong

enough to disintegrate the nervous tissue, yet it immediately and momentarily causes that nervous tissue to cease to function. Momentary though this loss of function may be, still it always exists, and in a degree directly proportionate to the force of the blow. Much more so then is it with the brain itself—a sudden shock applied to it, directly or indirectly, causes it to cease to function in that part where the force of the shock is most felt or, perhaps, in that part where the threshold of stimulus is lowest, wherever it may be. The seat of consciousness is usually most and first affected and its function is more or less interfered with. A train of symptoms is set in motion and to the condition characterized clinically by these symptoms the name "Concussion of the Brain" has been applied. In these later days when the truth of everything that we have ever learned is being called in question, there has been much cavil and discussion as to the appropriateness and even as to the significance of the term. I am reminded of a discussion I once listened to concerning epilepsy. When one of the ardent young seekers after truth demanded of the celebrated Doctor \_\_\_\_\_ of Chicago just what he meant by epilepsy, the gentleman from Chicago replied that by epilepsy he meant what almost any damn fool meant when *he* talked about epilepsy. So it is with concussion. It means something to almost everyone who hears it and usually it means the same to us all—a condition appearing as a consequence immediately after the application of physical force to the head, directly or indirectly, and characterized by symptoms varying directly in their intensity with the force of the blow struck. When the force is slight, so are the symptoms—a sensation of vertigo, dizziness, flashes of light, loss of consciousness, loss of muscular control. When the force is severe, so also are the symptoms severe, even severe enough to cause immediate death. When consciousness is lost there is immediate loss of voluntary muscular control and an immediate fall in the general blood pressure. The surface of the body becomes pale; the respiration may cease momentarily and the pulse may disappear from the wrist. If the force of the blow has not been too great, the patient presently begins to recover. The center governing circulation is the first to regain its tone just as it is the last to lose it. As the



force of the heart becomes stronger and the blood is forced about, there should be a corresponding recovery of respiration. This does not always occur. When it does not, the patient becomes cyanosed. Such a patient theoretically should be benefited by the application of artificial respiration and sometimes so he is. As the recovery proceeds, the general blood pressure rises and usually the patient aids this rise by vomiting, and when the concussed patient vomits the physician feels that he is getting better, whereas if loss of sphincteric control is manifested by involuntaries, this is taken as a sign of very, very grave import and of bad prognosis. The depth and duration of the immediate unconsciousness is a direct index of the amount of force applied to the brain and, consequently, an index of the extent of brain injury. The unconsciousness that *succeeds* or *persists* may not be an evidence at all of the extent of the injury, for a patient without any brain injury whatever may become unconscious and even die without regaining consciousness from even a slight injury to an artery or a vein in the membranes.

To be able to make a diagnosis of the extent of the brain injury immediately after its inception, is hardly possible. Conditions may arise which cause the unconsciousness to deepen; the blood pressure to rise; the pulse and respiration to fail. The extravasation of blood or of serum may be great and rapidly produce these symptoms, or, occurring more slowly, the symptoms appear later, but in either case death may ensue.

It is necessary to remember that extravasation of blood or serum or the depression of bone into the cranial box, impinges on the space normally occupied by the brain and by the blood in the vessels thereof. We sometimes think of this cranial box as though it consisted of one compartment only, but there are three compartments and their walls are fairly rigid—two compartments above for the lodgment of the hemispheres, the opening between them filled and blocked by that portion of the brain which holds the two hemispheres together, the corpus callosum, the floor of the third ventricle and the crura cerebri. In the other compartment lodge the cerebellum, pons and medulla and the opening in the tentorium through which this chamber communicates with the upper chambers, in

life is filled—and fairly closely—by the mid-brain. The fact that there are three compartments should be well borne in mind. It explains how the intracranial tension can be much higher in one than it is in the others. It explains why it is that very much blood may be extravasated above the tentorium and yet no blood appear below it.

But when pressure rises in one chamber the tension in the other chambers will also rise, perhaps not so rapidly nor so high. When intracranial tension rises rapidly, due, for example, to the extravasation of blood, the first structures within the cranium to yield to that pressure are the thin-walled veins in the neighborhood. Their walls are compressed, squeezed together, and this leads to a turgescence in the capillary fields which they drain. Now it has been shown that the irritability of the brain cell varies directly with its blood supply and if the capillary field in the motor area, or a part of it, becomes congested, this is made manifest by hyper-excitability or signs of irritation in the muscles under the control of this area, and twitchings, convulsions, etc., are likely to appear. When such occurs in the sensory area, the symptoms produced vary with the area congested. When the occipital poles are irritated, the patient may have flashes of light, etc. If the frontal area is congested, ideation is increased. The patient becomes talkative, maybe boisterous, finally delirious. Apply the same reasoning to the area governing respiration and vascular control—if about the nucleus of the vagus, then the vagus is more irritable; respiration is deepened; breathing becomes stertorous and the pulse is slowed and becomes full and strong and at the same time the blood pressure begins to rise. If, now, the intracranial tension continues to rise, the next to yield to the pressure will be the capillaries themselves and now, the tissue being deprived of its blood supply, becomes blanched. The signs of irritation give way to those of paralysis. The twitching limb lies still; the muscles become flaccid; the hyperesthetic skin receives the pin prick unnoticed; delirium gives way to coma; and when at last the capillary bed in the neighborhood of the medulla begins to be compressed, the Cheyne-Stokes breathing occurs, followed later by rapid, shallow and irregular breathing. The pulse, too, becomes rapid, the rhythm irregular, the volume

weakens, the blood pressure falls and the patient dies.

Now when we are discussing intracranial injuries, we must give some consideration to the pathology. The pathology cannot always be known with certainty in time to do the patient any good, and in certain conditions, even though it were known, the probability of doing the patient any good is remote indeed.

We will consider injuries to the dura. These practically always accompany skull fracture. The only positive immediate evidence of the injury will be either by direct vision or by the appearance of cerebrospinal fluid coming from the wound, from the ear or from the nose. The tearing of the dura is not in itself a serious matter but when the subdural space communicates with the air, bacteria are likely to gain entrance and meningitis ensue. More particularly is this true if the sinuses, the seat of former or present infections, are opened into, the middle ear, mastoid cells, sphenoidal, ethmoidal or frontal sinuses. Flow of cerebrospinal fluid is conclusive evidence that the dura has been torn; the flow of blood from the ear or from the nose is not.

It sometimes happens that the dura over frontal, ethmoidal and sphenoidal sinuses is ruptured without blood extravasation and without escape of cerebro-spinal fluid, the diagnosis of dural rupture being made by the roentgenogram showing air inside the skull—pneumocephalus.

At the same time that the dura in the temporal region is torn, the largest of the meningeal vessels, the middle meningeal artery or one of its branches, may be ruptured. Or this accident can occur without rupture of the dura or even without fracture of the skull. When the dura is ruptured at the same time as the artery, the blood is likely to escape into the subdural space, but in most cases of bleeding from the middle meningeal artery, the dura is not ruptured and so the blood collects between the dura and the bone. As the extravasation proceeds, the dura is stripped away from the bone; the clot accumulates between dura and bone, as I will show you later; the hemisphere is pressed upon; the intracranial tension rises and in response, the blood pressure also rises. By this means, the bleeding is increased, the vicious circle is established and, unless relief be afforded, the patient will very likely soon die. Of all of the forms of intracranial bleeding, this is the

only one for which immediate operation is indicated and the only one in which immediate operation has achieved brilliant results.

The clinical story is nearly always the same; namely, a blow to the head, perhaps immediate unconsciousness which, as a rule, is quickly recovered from, and the patient thinks he is quite all right and goes about his affairs. He presently begins to complain of headache, dizziness or blurred vision, and it may be noticed that the lower half of his face is partly paralysed on one side. The paralysis is always on the side opposite to the lesion, regardless of which side has received the blow, because the blow may be struck on one side and the laceration of the vessels take place on the other—injury by contrecoup. As the bleeding proceeds and the clot enlarges, the frontal lobe is more and more pressed upon. The paralysis increases, the headache becomes more severe and the patient may become delirious, but presently he becomes drowsy and soon comatose. It has been said that the pupil of the affected side in brain injury is always the first to dilate. A search of our records reveals that in about 70 to 75% this is true. In many, when the patient is first seen, both pupils are dilated. Sometimes both are contracted. As a localizing sign it is of confirmatory value only.

Bleeding also sometimes occurs from the arteries at the base. The extravasation is more rapid, the symptoms more severe and more rapid in their development and termination. There is very little that can be done for it; there is nothing diagnostic of its presence.

Bleeding may also occur from the cortical veins, particularly those over the cerebral hemispheres. When large veins are broken near where they empty into the longitudinal sinus, the accumulation of blood is subdural and may be widespread. It can occur on both sides at the same time. It usually arrests spontaneously when the tension outside the vein becomes higher than the tension within it. Such a blood clot is even more dangerous than the one lying outside the dura, other things being equal, for even a small subdural clot can result in a very large so-called blood cyst. The occurrence of these cysts isn't always remembered. Their clinical story is generally as clear cut as that of bleeding from the middle meningeal artery. There is a history of injury with perhaps a period of unconscious-



ness which may have lasted for some days. Generally the head injury has been of some severity and the patient is kept in bed for at least a week. He then begins to get up and go about but he soon complains of headache, which grows increasingly severe, dizziness, delirium, attacks of insanity, hemianopsia, paralysis—any of these, depending upon the site of the lesion, may supervene and they grow worse as he keeps going about. Even if he is put to bed, the symptoms, although relieved, recur and their progress is soon noticeable. The treatment consists in opening the dura, evacuating the clot and removing the granulation tissue on the inner surface of the dura. Even this is not always necessary, evacuation alone often sufficing. The contents are chocolate or coffee colored. The cyst increases in size, even though the blood extravasation has long ceased, due to certain chemical changes or changes in the specific gravity. As these occur, fluid is imbibed into the walls by osmosis and the cyst continues to grow. In such a case, unless relief is afforded, the patient will die. The duration of these cysts is sometimes from several weeks to several years.

And now we will briefly consider haemorrhage into the brain itself. Vessels in the cortex, arteries or veins, may be ruptured by the force of the blow. Blood is extravasated into the brain tissue, more easily into the white matter as this readily splits into layers. This is the case in apoplexy. The hemorrhage may be one large one or multitudes of small ones. How to make the diagnosis I do not know. Some of these patients have lived for weeks, others have died within a few hours. In all those in whom we have confirmed the diagnosis by autopsy, the unconsciousness was profound and continued. Again, hemorrhage occurs into the ventricles from the vessels perhaps in the choroid plexus itself or from vessels in the brain substance nearby. In this latter case, bleeding occurs into the brain substance and later breaks into the ventricle. In most of those cases in which we have proved at autopsy the presence of blood in the ventricles, the patient never recovered from the initial concussion unconsciousness, and usually died within four days. The all showed general spasticity and many of them bilateral Babinski reflex.

A lot has been said about brain contusion and brain laceration. The extent of brain contusion

or brain laceration can only be determined by actual visualization of the part; it can only be surmised at by the symptoms. Generally speaking, the slighter the blow, the slighter the laceration. It has been said that the extent of the fracture is an index of the amount of brain injury. Not always. I will show you a picture in which the skull has been actually shattered, as you will see, and yet this patient was scarcely unconscious at all, showed no sign of brain injury and was well enough to leave the hospital in less than two weeks, whereas one of our brightest young men lost his life from laceration without any cranial injury at all.

When brain tissue has been deprived of blood in any way, a certain amount of softening occurs. It may be a mere contusion, it may be a laceration, it may be both. The greater the contusion in the neighborhood of the laceration, the greater the interference with the blood supply and the greater the amount of softening. The softened material becomes foreign body. Also, it is a good culture medium if bacteria happen to reach it. Nature will try to get rid of it by absorbing it or by walling off the part. It is remarkable what large portions of the brain sometimes disappear after an injury, at least certain brains known to have been seriously injured during life have been shown after death to have defects existing at the site of injury. I will show you one such.

Now for a moment let me speak of that still most dreaded foe of all those who treat brain injuries or do brain surgery. I refer to edema of the brain. When a living tissue is injured, it reacts. The reaction is called inflammation and in this process, swelling is produced. Now, when the brain is injured, it is no exception to the rule; it reacts and inflammation ensues but swelling cannot occur, as I said before, within the brain box without causing some of the normal contents of this rigid box to yield and give place. Edema is the extravasation of fluid between the cells in the tissue and the accumulation of fluid within cells themselves. The extravasated serum presses on the capillaries and blood cannot fill them. If this occurs in the neighborhood of the vital centers, the process is not compatible with life, for these centers must have capillary supply in order to function; and it is a fact that edema beginning in one locality can spread, and quickly, to all other parts of the brain, although it is

generally worse in the neighborhood of the injury. Seeing that the fluid is intercellular and intracellular, how futile to think of benefiting it by the withdrawal of cerebrospinal fluid! But it can be benefited by measures directed to changing osmotic tension in the capillaries. Magnesium sulphate given into the alimentary canal, either by mouth or per rectum, soon produces watery stools. The water must come from the blood eventually and this will tend to lessen the edema, or sometimes hypertonic solutions of salt or glucose are given intravenously. This has been a very wide-spread method of treating head injury for the past few years. I do not believe that its benefits have equalled the expectations of its discoverers and now the belief seems to be gaining ground that although it causes temporary dehydration, this is shortly followed by an increase in the hydration of the tissues of the brain.

The question of lowering the tension within the head requires a little consideration. If you feel that bleeding is occurring or has recently occurred; that is, bleeding from vessels of the brain itself (not from the middle meningeal artery), the best treatment is expectant and one expects that as the tension rises, the bleeding will cease. If, however, one does something to lower the tension within the patient's head, the bleeding increases, or having ceased, will be started up again. Consequently, nothing should be done to diminish the intracranial tension if one fears bleeding into the brain substance itself, into the ventricles or from the cortical veins.

*The diagnosis.* The determine the exact kind and extent of brain injury without opening the cranium, is at the present time impossible. However, there is usually enough evidence to warrant the diagnosis of brain injury. If the concussion did not produce unconsciousness, it is highly probable that the brain injury is slight, if present at all. On the other hand, if the patient remain profoundly unconscious and if stertorous breathing soon begins and there is general relaxation of the muscles persisting after the injury, severe brain injury is likely to be present. And if, in addition, the blood pressure rises abnormally and the pulse becomes slow, the probability of serious injury is still greater. In the case of doubt as to whether the patient has had an apoplectic stroke or a head injury, a persistent onesidedness of the paralysis speaks

strongly for apoplexy. Spinal puncture as a diagnostic measure is to be condemned, though there is no harm in having a manometric reading of the tension in the lumbar spine. If bleeding is taking place into the cranium, the spinal pressure should, of course, be higher than normal. The ophthalmoscopic examination of the fundus of the eye does at times show choking of the disc, even very early. My colleagues and I, some years ago, watched it beginning on the right side and progress later to complete choking on the left side, all within three hours from the time of injury.

*The treatment.* It should be distinctly understood that there is hardly ever any necessity for a hurry-up operation in the case of brain injury. I believe that the only intracranial injury wherein operation is immediately and urgently indicated is that in which the diagnosis is bleeding from the middle meningeal artery or one of its branches. It has been my experience that when a patient was brought in immediately after his injury and it was felt that unless something were soon done to decompress the brain that the patient would soon die, our records show that most of such patients operated on died; in fact, such patients nearly always die soon after the early decompression. I have lived through the time when all haste was made to do a decompression; sometimes even a bilateral subtemporal decompression was done, on patients who seemed on the point of dying because of a recent brain injury—fracture of the skull. They always died. We now quickly and quietly put these patients in bed. We do not raise them up while the blood pressure is low but we do later, unless their symptoms are made worse by so doing. We keep the body warm. We do not give them much fluid. While there is danger of hemorrhage being renewed by a sudden lowering of the intracranial tension, we do nothing to lower that tension without, at the same time, lowering the general blood pressure. If the blood pressure be already low, we simply keep the patient's body warm and the head cool, and wait. When the pressure begins to rise, we give magnesium sulphate, either into the stomach through a tube or into the rectum. We give it in 25 to 50% solution. We repeat it every two hours until it provokes watery evacuations. We like to keep the bowel moving rather copiously during the first three days. We do not give any opiates for the rest-



lessness. We have used paraldehyde, bromides and chloral, allonal, etc., but any time after the first day we relieve the restlessness by doing a spinal puncture. Before we do it, we turn the patient on his side and raise the foot of the bed, so that the axis of the body shall be about 45°. The fluid is allowed to flow out till it is no longer under tension. This gives great relief for the restlessness that follows brain injury. The giving of the salt, I believe, lessens the incidence of edema or lessens its severity. We have also used the intravenous 25% salt, 50 cc at a time, or 50% glucose, 100 cc. These are the adult doses. I have been rather afraid to persist in using the salt after three or four doses. It always seems to me that in the severe cases, if it didn't do any good, it might do harm if persisted in. The same is true of glucose but we have continued to use glucose even to the third and fourth day. I don't believe it is so dangerous to the kidneys as the sodium chloride.

I haven't said anything about the indications for operation, nor will I say anything about the technique, but there are cases of brain injury that should be operated on and these are, first, all that coexist with compound fracture of the skull and these, I believe, should be operated upon as soon as the reaction sets in after the original shock or concussion symptoms have subsided. Again, all those that are accompanied by depressed fracture of the skull. I believe the depression should be remedied as soon as the patient has sufficiently recovered from his shock, although there is perhaps no decided hurry unless important focal signs coexist. Operation is also indicated just as soon as focal signs appear. No one can tell just what it is that lies concealed within the skull, pressing on the cortex to produce such focal signs—a blood clot, a localized edema, even an abscess—whatever it is it should be uncovered and properly treated. More lives are lost and more invalids are created by waiting to see than by looking and seeing and treating. It is important to remember that almost any operation on or in the head of the adult can be well done under local anesthesia and no one with experience will deny that local anesthetic is much safer in brain injuries than any other anesthetic so far used.

Saint Marys Hospital.

## MANAGEMENT OF STERILITY IN GENERAL PRACTICE

MARSHALL FIELD, S. B., M. D.

Instructor in Gynecology, Rush Medical College  
Senior Obstetrical Staff, Ravenswood Hospital

CHICAGO

About fifteen per cent. of all marriages in the United States are sterile, not due to design on the part of the couple but due to various pathologic causes. Probably the great majority of these wives desire children. The maternal instinct in woman is so pronounced that in many of these cases the unfulfilled desire for children amounts to no less than mental anguish.

It is the plain duty of the medical profession to furnish relief to as many of these as humanly possible.

The difficulties encountered in the solution of this problem are great. The ultimate result is often failure. The expense for the patient and the labor for the physician, represent dampers on our enthusiasm for doing our best with this problem. Yet many patients are able and willing to co-operate if sufficient explanation is given as to what their problem entails.

As the physician proceeds, his realization that he is putting to the test all phases of his gynecologic knowledge, and that he is often succeeding where others fear to really try, will cause his enthusiasm to grow.

An effort is made here to present a chronological procedure, which is far from exhaustive but on the other hand is sufficiently detailed to provide help to the majority of the curable cases without impossible expense for the average case seeking relief.

It is usually the wife who presents herself. Our first concern is when to consider a marriage really sterile. If after a period of three years of normal conjugal relations, no pregnancy has resulted we are justified in proceeding.

A careful history of the wife should be taken with emphasis upon symptoms of gonorrhea, infected abortion, obesity or other endocrine disturbances, and menstrual rhythm. A late puberty or even dysmenorrhea suggests endocrine disturbance and probable infantile uterus. Inquiries should be made about sex desire and frequency of intercourse.

The physical examination occasionally ends our search. Certain congenital malformations

or definite bilateral pyo- or hydrosalpinx make conception obviously impossible. Other findings are only possible causes of sterility and the case deserves further study. Among the possible causes we should note; badly damaged pelvic floor; lacerations, infections, malposition or partial obstructions of the cervix; hypoplasia, displacements or tumors of uterus; tenderness, thickening and inelasticity of adnexa; and lastly tumors of the ovaries.

If any of these possible causes of sterility are found their treatment should await Huhners' test, and unless there is suspicion of adnexal inflammation, Rubin's test should be made before proceeding with any radical treatment of any of the conditions. These two tests are extremely important recent contributions to our study of sterility. Huhner's test often saves us from the renowned reluctance on the part of the male to believe he could possibly be impotent. It also quickly dissipates our concern over inimical genital secretions, rapid loss of seminal fluid from the vagina, or improper position of the cervix.

The patient presents herself at the office as soon after intercourse as possible, preferably within an hour. With a long pipette, having a narrow nozzle (easily made with a glass drinking tube and a gas flame), a small drop of secretion is transferred from the external os to a glass slide. Immediate examination should show living spermatozoa. Thus, this simple test of Huhner's shows us that the husband is potent, that the genital secretions have not killed the sperms, and that regardless of the position of the cervix that the sperms reach it satisfactorily. If no living sperms are found the test should be repeated. A repeated test yielding no living sperms should be followed by a condom specimen. If this shows many active sperms the guilt lies with the female genital secretions. If no sperms or only dead sperms are found the fault is with the male. Discussion of sterility in the male will be omitted here except to say that the most common causes are bilateral epididymitis or bilateral orchitis due to mumps.

Hostility of the cervical secretions was encountered by Mazer in over twenty per cent. of functionally sterile women. He removed this hostility in over two-thirds of these with organo-

therapy and x-ray irradiation of pituitary and ovaries. He thinks the oestrin therapy probably accounted for the result. Excess vaginal acidity probably is not the cause of the death of the sperms, but more likely it is some unexplained biochemical hostility.

If there is endocervicitis this should be cured by proper application of cautery or coagulation.

When the fault is found neither with the male nor with the genital secretions the next step is Rubin's test. The patient should report to the office again about four days after the next menstrual period. This test can be made in a simple manner. A large glass syringe with a rubber bulb may be used. The glass nozzle should be large enough to occlude the external os efficiently as the point enters the cervical canal. The rubber bulb should have a capacity of four to six ounces. The cervix is painted with iodine, the nozzle inserted and manual bulb pressure used to force air into the uterus, while listening with the stethoscope above the symphysis pubis. If air goes through either tube a characteristic hissing sound is heard. Pain in the shoulders when the patient arises is further confirmation of the patency of at least one tube. Some care and experience is necessary in the application of this test but it soon becomes a simple office procedure.

If the tubes are not patent and there is reason to suspect they may have been closed by a previous gonorrhea, conservatism and retests at lengthy intervals are in order; as conservative treatment in such cases is more likely to restore fertility than plastic operations about the tubes or cornuae. These operations should only be offered to the patient with the understanding that they offer only a possibility of her becoming pregnant. She may be given more hope if lipiodol injection and x-ray show the occlusion to be at the fimbriated end.

When the tubes are found patent, we may then offer the correction of malposition, subserous fibroid, ovarian cyst or other pathology that may have been found on physical examination. Correction of these conditions may be offered first but not solely as an attempt to cure sterility.

It is in the cases where our examination has been negative throughout up to this point, that our greatest difficulty occurs.



There have been sufficient examples of restored fertility after thorough dilatation of the cervix in apparently normal women to justify this procedure at this time in normally menstruating women.

When this possibility has been exhausted our last resource is endocrine therapy. In the obese patient, especially if she has a low basal metabolism, regulated doses of thyroid extract are certainly indicated. In patients without discernable pelvic pathology but with disturbed menstrual rhythm, endocrine therapy really has something to offer. Even in regularly menstruating women the endocrines may help.

In a case of sterility associated with amenorrhea, oligomenorrhea, or menorrhagia, the treatment of the menstrual irregularity is the treatment of the sterility. In the first two types probably the best results have been attained with repeated low-dosage irradiation of the pituitary and ovaries. It is with menorrhagia, exclusive of preclimacteric bleeding, that we have our greatest field of usefulness for endocrine therapy. Two hundred units of prolan (Antuitrin S), repeated as necessary, acts almost as a specific in controlling the bleeding.

The infantile or hypoplastic uterus may frequently be enlarged by two or three months treatment with daily doses of 200-1200 rat units of oestrin by mouth. The larger doses are necessary for the more marked degrees of hypoplasia.

If the menses are regular some hope may be offered by fifteen rat units of prolan every second day during the second half of the menstrual cycle. This indirectly stimulates the endometrial bed for the fertilized ovum. This treatment is based on the known fact that the endometrium is improperly prepared for implantation of the ovum in many normally menstruating women, and on the supposition that sterility may frequently be due to loss of the fertilized egg as well as to lack of fertilization.

Hope should never be taken away from a sterile woman, because even though all measures we possess may fail, we should remember that glandular dyscrasias are somewhat subject to natural change and time may do for our patient what we have failed to accomplish.

1951 Irving Park Blvd.

## TREATMENT OF VARICOSE VEINS

HAWTHORNE C. WALLACE, M.D.

CHICAGO

In the past four years our varicose vein clinic at the University of Illinois has given over 4,300 injections of various sclerosing substances. In handling this number of injections one develops certain definite ideas as the result of experience, which may be of value to others.

When a patient with varicose veins presents himself to our clinic a history is first taken. An attempt is made to ascertain the cause of the varicose veins. The vast majority of women will give the history that these varicosities occurred after pregnancy, getting worse with each succeeding pregnancy. Here the stasis of blood in the veins of the pelvis is probably the chief factor, although during pregnancy there may be some endocrine disturbance which favors the development of varicose veins. After pregnancy, the cause most often ascribed has been long standing occupations; and, indeed, in men with varicosities, an occupation which requires long standing is almost always the rule. Heredity is a factor of some importance. Slightly over 60 per cent. of the patients will state that either their parents or grandparents suffered from this trouble. Varicosities of the superficial veins are only rarely caused by phlebitis—in our series but once, the result of a phlebitis after typhoid.

An infection will frequently develop in a varicosity, however. Practically all the difficulties in varicose vein injection results from the lighting up of a resting infection. De Takats has well reviewed this subject.<sup>1 2 3</sup> The patient must be questioned carefully as to whether at any time there has been a swelling of the leg with fever, in short a phlebitis.

The physical examination must be thorough, and yet not time consuming. The heart and lungs must be examined and the abdomen palpated for masses. The veins involved, whether the long saphenous or the popliteal, must be noted and the extent of the involvement in each, particularly if any involvement is present above the knee.

A Trendelenburg test is rapidly done. The leg is elevated and the superficial veins are emptied of their blood. Pressure is made with the finger over the long saphenous vein in the

thigh, and the patient is made to stand with the finger still in position. If the varicosities now fill rapidly (within ten to twenty seconds), the communicating veins are incompetent, as sudden filling of the varicosities has occurred through them. We then say the Trendelenburg is positive. If, however, one minute or more is required to fill the varicosities, the blood must be coming in from the capillary side, the communicating veins are competent, and we say the Trendelenburg is negative.

If there is any reason to suspect that the deep veins are not patent, the superficial veins should be emptied and a bandage applied from the toes to the knee. The patient is then told to walk about for one hour and return. In case the deep veins are not patent, the discomfort of the patient is increased, while if they are competent, the discomfort is lessened.

We do not do Wassermanns or Kahns routinely on all ulcers because of expense, but if there is any suspicion of a luetic basis a Kahn is done. Occasionally one is surprised. One individual had been under treatment at another clinic for two years without result, while under antisyphilitic treatment the ulcers rapidly healed.

The technic which we follow in our clinic is the simplest one possible. We have the patient stand upon a bench made for the purpose that is about eighteen inches above the floor. The portion of the vein to be injected is selected and the injection made after proper cleansing. No attempt is made to empty the varicosity of blood at that point nor is any apparatus used to segregate a portion of the vein. A pad held on by adhesive is put over the point of injection. The patient is instructed to remove the pad in two days and to keep on his or her feet. We do not put the leg in a horizontal position, nor do we attempt to confine the solution to any portion of the vein by any special apparatus, and our results are satisfactory. As a rule we like to begin with the lowest varicosities and work upward; but we do not feel that this of necessity must be done, except where the communicating veins are incompetent. Only one injection is given at a time and a 22 to 26 gauge needle with a short bevel is preferred.

Varicosities of the long saphenous vein in the thigh present a special problem. If varicosities below the knee are obliterated and those of the

long saphenous above the knee allowed to persist, canalization will occur, and yet injection too near the termination of the saphenous vein may be accompanied by some danger as a portion of the injected fluid may find its way into the femoral. However, we do not hesitate to inject varicosities a hand's breadth or slightly higher above the knee. The results are most satisfactory, in some cases the thrombosis extending to the saphenous opening. De Takats<sup>2</sup> advises high ligation with injection where there is valvular incompetency of the long saphenous above the lower third of the thigh.

At one time or another we have used nearly all the solutions which have been recommended: dextrose, invertose, sodium salicylate, sodium morrhuate, salt, quinine and urethane and all sorts of combinations of these substances.

Of late we have confined ourselves to the use of two solutions—quinine and urethane—2 c.c. for the smaller varicosities and a saturated solution of salt for the larger.

Quinine and urethane is a very efficient sclerosing solution. At times, however, some people are found who have an idiosyncrasy to quinine. Then, too, for very large varicosities it may be inefficient. For these we use 10 c.c. of a saturated solution of table salt, which is highly effective. The objection to the use of salt is based, first, on the severe cramp which it causes and, second, on the fact that a slough which is very slow in healing is produced if any fluid escapes from the vein.

The main contraindication to the use of sclerosing solutions is phlebitis. Any reported death has always had as a factor an induced phlebitis. The question is, then, how to recognize a potential infection. First, the history is important. Any history suggestive of a phlebitis, whether recent or old, should be enough to make one approach the vein with caution. The course of the vein should be felt with the hand and if there is detected any rise in surface temperature no injection should be given. De Takats<sup>1</sup> suggests tests, such as vein puncture, exposure to x-ray, etc., and measuring the skin temperature four hours afterward, but we prefer to wait, meanwhile clearing up any obvious foci of infection, as he suggests.

Many men inject during pregnancy, notably Stoner<sup>4</sup> and Lewis,<sup>5</sup> but our practice is to leave



the varicosities alone until after the pregnancy is terminated, meanwhile using bandages.

Mild diabetes is not a contraindication to injections, provided sugar solutions are not used.

In our clinic we do not inject while an ulcer is present, although aware that some good men do so, if there is no evidence of a very acute infection about the ulcer.<sup>5 2</sup> We have had the experience of having a massive thrombosis and periphlebitis extending to the saphenous opening follow injections given in the presence of very mild looking ulcers. It is also our belief that if this occurs, canalization very promptly ensues and then the problem of procedure is difficult. So we heal the ulcer first and then inject.

The most serious complication of injection treatment is that of massive thrombosis followed by embolism and possible death, an accident which fortunately we have not had in this clinic. McPheeters and Rice<sup>7</sup> reported 53,000 cases from foreign clinics with 11 deaths, four from pulmonary emboli.

Stoner<sup>4</sup> reported three non-fatal cases of embolism in 400 patients and states that four deaths are reported from elsewhere in Iowa, three of which were undoubtedly embolic.

So there is a danger, slight, but real for all that. The reports would seem to indicate that salt is more often used in fatal cases than any other solution, but we cannot believe that the choice of solution is the important factor, but rather the lighting up of a latent infection.

If a slough occurs and the reaction about it is extensive, we use hot applications for a few days and then follow by nothing but a dry dressing. The most of the sloughs are small and do not require hot applications. In about 4,300 injections we have had 50 sloughs, most of them insignificant, but they delayed the treatment from four to thirteen weeks while the slough healed.

If the sclerosing action is very strong and the vein wall thin, there may result a periphlebitis which will be troublesome to the patient but can be regarded with equanimity. However, further treatment must be delayed until the reaction subsides.

In using quinine solutions the patient must always be questioned regarding any idiosyncrasy to quinine and the first injection may well be a small one.

As to results, we have given 4,300 injections to 806 patients, an average of a little over five injections per patient. The number per patient runs from a single injection for a localized varicosity, to nineteen, where both legs were treated. We have given of late about six injections of quinine to one of salt, whereas when we began four years ago the ratio was about 2:1. We believe that this decrease in the use of salt is due mainly to the fact that there is a tendency to catch up on the varicosities. We do not see as many large varicosities as we did at first, nor are they as long-standing.

The immediate results were classed as 764 excellent and 42 fair to poor. By excellent we mean all that can be desired—obliteration of all varicosities and elimination of symptoms. The best results occur, of course, in the Trendelenburg negative group, which comprised about 90 per cent of all cases seen. The poor results are all found in the Trendelenburg positive cases where the communicating veins are incompetent. Some in this latter group will require high ligation of the saphenous vein combined with the injections. However, in many Trendelenburg positive cases good results may be obtained by using the stronger sclerosing solutions and taking care to work from below upward with the injections.

The percentage of recurrence in two or more years is not high, we believe. Howard, Jackson and Mahon<sup>8</sup> at Stanford report recurrences in one year running as high as 98 per cent. To this we cannot agree. However, to check on recurrences in a satisfactory manner in as large a clinic as ours is very difficult. If, however, the recurrences ran anywhere near to this figure we should be getting large numbers of recurrences from our own and from the other clinics in our city. And this we are not. As nearly as we can check we believe the recurrences run about 15 per cent. in one to two years. One must distinguish between a true recurrence in a vein and development of a new varicosity in a vein which has not been treated previously.

Comparing the results with those of operative treatment, the weight of evidence is much in favor of the injection treatment. Kilbourne<sup>6</sup> found in 4,607 operative cases a mortality of sixteen, about 0.4 per cent. In a series in which the injection treatment was used the rate was 0.02 per cent. As noted above, McPheeters and

Rice<sup>7</sup> collected 53,000 cases treated by injection and reported a mortality of only eleven cases. So far in our clinic we have had no mortality and no very serious complication.

5134 Irving Park Boulevard.

#### REFERENCES

1. De Takatas, G.: Resting Infection in Varicose Veins, *Amer. J. Med. Sci.*, 184: 57-66, 1932.
2. De Takats, G.: Problems in Treatment of Varicose Veins, *Am. J. Surg.*, 18: 26-30, 1932.
3. Jacques, L.: Varico-phlebitis and Injection Treatment, *Ann. Surg.*, 95: 746-753, 1932.
4. Stoner, A. P.: Injection Treatment with Reference to Complications and Danger, *Am. J. Surg.*, 16: 444-450, 1932.
5. Lewis, R.: *Ann. Surg.*, 95: 727-733, 1932.
6. Kilbourne, N. J.: Treatment of Varicose Veins of the Legs, *J. A. M. A.*, 92: 1320-1324, 1929.
7. McPheeters, H. O. and Rice, C. O.: Varicose Veins: Complications, Direct and Associated, Following Injection Treatment; review of literature, *J. A. M. A.* 91: 1090-1094, 1928.
8. Howard, N. J., Jackson, C. R. and Mahon, E. J.: Recurrences of Varicose Veins following Injection; study of pathologic nature of recurrence and critical survey of injection method, *Arch. Surg.*, 22: 353-376, 1931.

### ECLAMPSIA COOPERATION OF GROUPS OF PHYSICIANS

DWIGHT J. LADD, M. D.

CHICAGO

The toxemias of pregnancy constitute the greatest responsibility of the obstetrician to his patient. Eclampsia, hemorrhage and infection are the three most frequent causes of maternal death in childbirth. Hemorrhage and infection are, for the most part, intrapartum and postpartum problems. Most cases of eclampsia and the associated toxemias of pregnancy are problems of pregnancy and prenatal care.

The clinical course and pathological findings in the toxemias of pregnancy have been thoroughly studied by many observers.<sup>1</sup> There are many different physiological systems involved in eclampsia. In spite of the vast knowledge of clinical and pathological changes, the etiology is unknown.

Eclampsia is frequently thought of as a clinical entity. It would better be considered as the end result of several of the toxemias of pregnancy, i. e. that condition to which any of them may lead. Studying the patient for the first time during a pregnancy, it is frequently impossible for the obstetrician to identify the exact type of

toxemia in progress. It may be necessary to recall past history and physical findings, interpret chemical or physiological changes or wait until the future to determine the underlying disorder. The work of the internist, physiologist and chemist should complement the work of the obstetrician in this complex group of toxemias.

The following clinical study of 25 cases of eclampsia which have occurred at St. Luke's Hospital in 5 years time is presented. Most of these patients had prenatal care. Thus, the women who received adequate prenatal supervision but had eclampsia represent the "irreducible minimum" of cases which develop, a number which further study of the disease should reduce. It is hoped that the problems of this disease and the responsibilities of the various groups of physicians will be illustrated.

*Incidence.*—In the 5 years there were 5,336 women delivered in the hospital, 3,230 white and 2,106 Negroes. There were 25 cases of eclampsia, an incidence of 1 case of eclampsia in every 213 deliveries, or 0.47%. Of this number, 13 were white and 12 were negroes, an incidence of 0.42% (1 case in 248 deliveries) for the whites, and 0.75% (1 case in 175 deliveries) for the negroes.

Six patients (24%) died. Three were white and 3 black. Among the whites there was one death for every 1,077 delivered (0.09%) and among the negroes one death for every 702 delivered (0.14%). Of all patients delivered in the entire 5 years, one in every 889 (0.11%) delivered, died of eclampsia.

The majority of the cases occurred in women pregnant for the first time; 14 of the patients had eclampsia in their first pregnancy. If early abortions were excluded, it was found that 18 patients had not previously carried a pregnancy beyond 3 months.

There was no distinct seasonal variation observed in the onset of eclampsia. Five cases occurred in Winter, 7 in Spring, 5 in Summer and 7 cases in Fall.

The age group was that common to childbearing women.

*Prenatal Care.* Twenty-three of the 25 patients had prenatal care varying from 4 to 23 weeks. The patients were cooperative and prenatal instructions were usually obeyed. The average time that the cases were under observation was 18 weeks. Five patients had been admitted

From the Department of Obstetrics, St. Luke's Hospital.

1. For an excellent review of the pathological changes in eclampsia see, Stander, H. J. *The Toxemias of Pregnancy*. *Medicine* 8: 1, February, 1929.



to the hospital one or more times during their pregnancies previous to the admission in which the eclampsia occurred. The case histories of two of these patients will illustrate some of the problems which we have in prenatal dispensary work.

Case 10. M. W., aged 41 years, white; had been under observation on several services in the hospital for 15 months. Her obstetrical history extended over a period of 16 years. She first became pregnant at the age of 24. This pregnancy ended at term with a living child. The next year she had a spontaneous abortion, cause unknown. Between the ages of 25 and 34 she had 7 full term pregnancies, all normal. Spontaneous abortions occurred at 38 and 40 years of age.

She was seen in the medical dispensary in May, 1927, five months after her last abortion. She complained of nervousness, palpitation and loss of strength of 2 years duration. The essential physical findings were enlarged thyroid, exophthalmus, tachycardia and basal metabolic rate of +47%. The blood pressure was 190/120. It fell to 150/86 soon after admission to the hospital. A subtotal thyroidectomy was performed on June 21, 1927, and the patient was discharged in good condition on the 22nd post-operative day. She felt well from the time of discharge until a year later. The basal metabolic rate varied from -6% to +2% during this time.

The patient was again seen on July 26, 1928, at which time she complained of edema of the legs and headache. Her last menstrual period had occurred on January 18, 1928. The blood pressure was 226/140. A diagnosis of pregnancy in the 27th week was made.

Two days later she was admitted to the Gynecological service of the hospital where she was observed for 6 days. The headache persisted for 3 days, the edema lasted until she was discharged. The blood pressure range during her admission was 204/124 to 240/150. The urine contained 0.5% albumin but no casts. The total non-protein nitrogen was 32 mgm., the urea nitrogen 13 mgm. and the uric acid 4 mgm. per 100 cc. of blood.

On August 9 in the 29th week of pregnancy she was seen in the dispensary with a blood pressure of 240/142 and again advised to enter the hospital. She was admitted to the Gynecological service one week later. The blood pressure on admission was 260/140, pulse 92. She voided 300 cc. of bloody urine, specific gravity 1.010, albumin++++, many hyaline and granular casts. She complained of severe pain localized in the epigastrium and was vomiting at frequent intervals.

The first convulsion occurred two hours after admission. During the next twelve hours she had eight more. She remained in coma from the onset of the first convulsion until death. The blood pressure 2 hours before death was 240/120. She died 6 hours after her last convulsion and 18 hours after the onset of eclampsia. Autopsy was refused.

Hypertrophy of the thyroid gland without symptoms is common during pregnancy. Increase of the basal metabolic rate is an almost constant concomitant of

pregnancy. Occasionally nervousness, tremors and tachycardia accompany this phenomenon. Further, these symptoms can usually be relieved by Lugol's solution.<sup>2</sup> There is no proof that disturbance in the function of the thyroid gland can cause eclampsia. In this case there was a clear cut history of the association of hyperthyroidism with a disturbance in 3 pregnancies, the last of which was a fatal eclampsia in the 30th week of pregnancy.

Case 4. A. D., white, aged 23 years, was first seen in the prenatal dispensary in the 30th week of her second pregnancy. She had had one full term instrumental delivery at another hospital. At her first prenatal visit the pregnancy was considered to be normal. Four weeks later she complained of occasional headache. The blood pressure was 146/98. Albumin and hyaline casts were present in the urine. She was admitted to the hospital for one week, during which time the headache disappeared and the blood pressure fell to 124/88. Albumin and casts disappeared from the urine. She was sent home, but returned 16 days later, in the 38th week of pregnancy with eclampsia. Under appropriate treatment she recovered.

This patient is illustrative of a group of cases usually diagnosed as pre-eclampsia in which it is impossible to predict the outcome. The toxemia, first appearing in the 34th week of pregnancy was mild. Within a week it had entirely cleared up as far as any symptoms, physical signs or laboratory data could demonstrate. But within two weeks time a relatively benign pre-eclampsia developed into eclampsia. It is impossible to tell which patients of this group of mild toxemia will recover and which will have eclampsia. We do feel that prenatal care has greatly reduced the incidence of eclampsia in this group. Appropriate treatment of pre-eclampsia reduces the number of patients whose toxemia progresses to eclampsia. Because of the beneficial action of the treatment already instituted, it is possible that eclampsia tends to be more mild if it should occur.

*Onset of Signs and Symptoms.* Patients presenting any of the following signs or symptoms in the second half of pregnancy are considered to have pre-eclampsia:—blood pressure of 140 systolic or 100 diastolic, presence of erythrocytes, albumin, hyaline or granular casts in the urine, edema, hydramnios, headache of more than transient duration, visual disturbances or epigastric pain. The onset of the first sign or symptom varied from the 15th to the 40th week of pregnancy. The average of all cases was the 35th week.

*Headache.* Eighteen (72%) of the patients complained of severe headache. The duration before the onset of convulsions varied from 1 hour to 4 weeks. Six patients had this symptom for less than 4 hours, five within 24 hours, and 2

2. Daly, P. A. and Strouse, S.: *The Thyroid During Pregnancy.* J. A. M. A., 84: 1798, June 13, 1925.

women developed it a week before the convulsions. Four patients had intermittent attacks of headache for a period of several weeks and one not until 6 hours after the onset of eclampsia.

*Vomiting.* Sixteen patients (64%) had severe vomiting. In 8 cases the vomiting occurred within 4 hours of the first convulsion, and in 3 less than 24 hours. Five had severe emesis for a week before the eclampsia.

*Visual disturbances.* Seven women (38%) had ocular symptoms ranging from blurred vision to complete blindness. Of the 7 cases, 4 were of less than 4 hours duration, 1 less than a day, and the others 3 and 5 days before the onset of eclampsia.

*Epigastric pain.* The presence of severe localized epigastric pain is always of the most serious prognostic significance. When it occurs in the course of a preeclampsia, convulsions are imminent. Sharp pain localized in the upper abdomen was present in 5 or 20% of our cases. In every instance less than 4 hours elapsed between the onset of pain and eclampsia. The average time was 2.5 hours.

*Hypertension.* The systolic blood pressure was elevated above 140 mm. of mercury in 24 of the 25 cases. In 3 patients the elevation in blood pressure occurred in the 24 hours preceding the eclampsia. In the remaining 21 women the average time which the blood pressure was known to be above 140 was 36 days.

A rise in the diastolic pressure above 100 mm. of mercury was found 23 times. In 5 cases the rise developed within 24 hours of the convulsions. The average of the others was 14 days.

*Urine.* Albumin was present in the urine before the onset of eclampsia in all but 2 cases. One of these was catheterized 2 hours before the first convulsion and a clear specimen obtained. The other patient had a complete anuria and no specimen was obtained.

Hyaline and granular casts were found before the eclampsia developed in only 5 instances. In 11 others they were found in the first specimen obtained after the beginning of convulsions. No casts were found in the remaining 8 cases.

*Edema.* Nineteen patients (76%) had demonstrable edema of the extremities, abdomen, face or vulva. The average duration was 12 days preceding the eclampsia. In one case it appeared suddenly 30 minutes before the first convulsion,

in the others it had been present from 1 day to 7 weeks.

*Polyhydramnios.* Five (20%) of the patients had an excessive amount of amniotic fluid. Three had the hydramnios at the time of the eclampsia. Two women had it in the 6th month of pregnancy. In both instances permanent absorption of the fluid occurred after a short period of treatment.

*Onset of Convulsions.* The earliest case occurred in the 28th week of pregnancy, the latest at term. The average time was 38 weeks. Four weeks elapsed between the average time of beginning pre-eclampsia (31st week) and onset of convulsions. While there are wide variations in the duration of pre-eclampsia, in the "average case" there was an interval of a month between the two phases of the disease.

In ten cases (40%) the first convulsion occurred before labor, i. e. eclampsia of pregnancy. In 9 instances (36%) eclampsia developed during labor. The remaining 6 (24%) were eclampsia of the puerperium. Only once when convulsions began before the onset of pains did they extend into labor. This patient had convulsions in labor and after completion of the third stage. Three cases which began in labor had additional convulsions after expulsion of the placenta.

Eclampsia of the puerperium usually comes on within a few hours after labor. One woman, however, did not develop the disease until 64 hours postpartum.

Case 21. M. L., aged 28 years, Jewess, first pregnancy. Her past history was negative except for scarlet fever in childhood. She had been seen 7 times between the 10th and 34th weeks of pregnancy. Fifteen days after her last prenatal visit the membranes ruptured prematurely. One hour later pains began. Labor was very rapid, 5 hours after onset the patient was delivered of a small, viable fetus. The blood pressure at the time of delivery was 130/78. The urine was negative. There was no edema and no symptoms of a toxemia. She was considered to be a case of premature labor in the 36th week of pregnancy.

The next two days were uneventful. In the evening of the 3rd postpartum day she complained of a mild frontal headache and slight blurring of vision. Soon thereafter she developed complete amaurosis. One hour after she first complained of headache the patient became stuporous. She was catheterized. The urine had a specific gravity of 1.010, it contained no sugar, albumin or casts. The pulse rate had increased from 72 to 104. The blood pressure was 184/120. She was given a hypodermic injection of morphine sulphate.

Two hours later she had a typical eclamptic convulsion followed by deep coma for 6 hours. The pulse



rose to 146. In 2 hours following the first convulsion she had 3 more seizures. Her condition was extremely critical for the next 6 hours. Treatment consisted of morphine,  $MgSO_4$  intravenously, heat and oxygen. She was again catheterized 6 hours after the first convulsion. The urine had a specific gravity of 1.040, albumin + + +, hyaline and granular casts and erythrocytes were present.

Improvement began after 8 hours. She left the hospital on the 17th postpartum day feeling well. The blood pressure on discharge from the hospital was 120/80, the urine was negative and she was free of symptoms.

The only conceivable warning in this case was the premature termination of the pregnancy. But many pregnancies end before term which are in no way associated with a toxemia. There is as yet no method available to determine if a given premature labor is due to a toxemia or is associated with one or more of numerous other causes of premature labor.

*Number of convulsions.* The average number of convulsions for all patients was 4.6, with a variation of from 1 to 15. Primiparous patients had a greater number of convulsions than multiparous. Fourteen primiparous women had an average number of 5.6 convulsions each while 11 multiparous patients averaged 3.5 each. Every woman was in coma following the eclamptic attack. The average duration of coma was 9 hours.

*Height of blood pressure.*—Elevation of the systolic blood pressure was recorded in every case. The highest reading was 260 and the lowest 144. The average was 188. The diastolic pressure was elevated to 100 or above in all but one case. The highest was 160, the average was 122.

*Blood Studies.* Blood chemistry studies were made nine times. The total non-protein nitrogen was slightly elevated in one case.

Case 20, W. F., aged 28 years, negress, in her second pregnancy. Her first pregnancy, 3 years previously, had terminated in a spontaneous abortion at 2 months. The past history was negative. She felt well during her pregnancy. In the 25th week she had a rise in blood pressure to 134/90, all other findings normal. In the 28th week she suddenly developed eclampsia and died undelivered 5 hours after her 4th convulsion. The blood chemistry findings taken 11 hours after the beginning of convulsions were total nonprotein nitrogen 46 mgm., urea nitrogen 20 mgm, and uric acid 5 mgm. per 100 cc. of blood.

In all other cases the non-protein nitrogen and urea nitrogen fell within the range of accepted normal values. The uric acid content of the blood was raised in every instance but one. The highest was 8.8 mgm. per 100 cc. of blood. The average was 5.5 mgm. Of the 6 instances in

which the  $CO_2$  combining power of the blood was determined it was found to be decreased in 5 cases. The lowest was 28 vols. %. The average of the 6 was 45 vols. %.

In 3 patients a marked degree of secondary anemia developed within a few days after the eclampsia. In none of these had there been sufficient hemorrhage at the time of delivery to account for the later anemia. In fact, in all the patients the postpartum bleeding was very scanty.

#### TREATMENT

Two methods of treatment were used, (a) an immediate operative procedure, and (b) the Stroganoff regime.<sup>3</sup> In some cases the intravenous use of  $MgSO_4$  was added.

*Immediate Operation.* Differentiation must be made between an immediate operative procedure done to combat the effect of the eclampsia and an obstetrical operation arising in the course of labor in an eclamptic patient. In the first instance the operative procedure is done as part of the treatment of eclampsia. The object is to hasten delivery in the hope that the disease will be favorably influenced. An operation for an obstetrical reason, arising independently during labor in a patient with convulsions is not to be considered as a method of treatment of the toxemia. The operation would be done irrespective of the disease. Immediate operation as a treatment of eclampsia was done five times. Mid-forceps was done once, bag induction twice and Cesarean section twice. Two cases (40%) died.

*Stroganoff.* The Stroganoff plan of treatment was used 20 times. In 10 cases venesection was done. Intravenous use of  $MgSO_4$  was substituted for venesection 4 times. In 6 instances neither venesection nor  $MgSO_4$  was used.

In 10 cases in which venesection was used, the blood pressure was lowered 3 times. The average fall in pressure was 23 points systolic and 13 points diastolic. In all cases relief was only temporary as within 12 hours the pressure rose to its previous level. In 4 instances where  $MgSO_4$  was given the blood pressure was lowered in all. The average fall was 22 and 17 points respectively. In each case the fall was permanent.

Of the 20 patients treated by the Stroganoff

3. Stroganoff, W.: The Improved Prophylactic Method in the Treatment of Eclampsia. N. Y., W. Wood & Co. 3rd. (1st. English) ed. 1930.

method there were 4 deaths. In this group, therefore, the maternal mortality was 20% as compared to 40% in which immediate operation was the principal method of treatment.

*Labor.* Four patients died undelivered, two had Cesarean section, leaving 19 who were delivered from below. Of these patients, 13 were primiparous and 6 were multiparous. Ten patients delivered spontaneously (1 death). There were 4 low, 2 mid and 3 high forceps deliveries (no deaths). Two patients were delivered by Cesarean section (1 death).

*Babies.* There were two cases of twin pregnancy in the series. Thus, of the 27 possible live babies there were 4 died undelivered, 3 still births and 4 who died before the mother was discharged from the hospital. There remained only 16 babies (59%) to be discharged from the hospital alive.

The fetal mortality is notoriously high in eclampsia. Any plan of treatment designed primarily to increase the chance of survival of the fetus is a procedure undertaken for an average expectancy of 59%. In a disease with such a high mortality we feel that every effort should be directed toward the care of the mother with but scant consideration for the outcome to the fetus.

*Puerperium.* Twenty-one patients were observed in the puerperal state. Two of these died of generalized infection secondary to an endometritis. One other had a bronchopneumonia of 12 days duration, one had a mild endometritis lasting 5 days and 3 had bronchitis for a few days. In other words, 33% of the mothers had the added risk of an infection during the puerperium. It is axiomatic that eclamptic patients do not tolerate infections as well as other individuals. It must be gravely considered in the contemplation of any operative procedure during the course of an eclamptic attack.

*Subsequent Pregnancies.* Gibson<sup>4</sup> has shown the danger of predicting the outcome of a subsequent pregnancy in a woman who has previously had a toxemia of pregnancy. He states "that freedom from albuminuria with a normal arterial tension following a toxic albuminuria in the course of one pregnancy is by no means

a sure criterion of its non-occurrence in a subsequent one. It may be permitted . . . after due consideration to the three outstanding hazards—first, irreparable damage to kidney and heart; second, prematurity; third, eclampsia."

It has been possible to observe five patients in later pregnancies, two of whom have had two pregnancies each following the one in which eclampsia occurred. While none of these has had a repetition of the eclampsia, of the seven future pregnancies observed, mild toxemic symptoms developed in four instances or 57%.

#### CONCLUSION

In a disease which causes such profound changes in body metabolism it is not remarkable that the etiology of eclampsia has so long remained obscure. Time and again theories have been advanced regarding the cause of this disease, but none has been able to explain all the changes which occur. The late J. Whitridge Williams's criteria for a satisfactory explanation was that it "must explain (a) the genesis of the characteristic hepatic lesions, (b) the predisposing influence of primiparity, multiple pregnancy and hydramnios, (c) that the disease is more common in northern countries than in the tropics, (d) that its incidence increases as pregnancy approaches term, (e) that marked edema is usually a favorable sign, while its absence adds to the gravity of the prognosis, (f) that true eclampsia rarely reoccurs, whereas chronic nephritis gives rise to increasingly serious trouble in each succeeding pregnancy, (g) that intrauterine death of the fetus is usually followed by improvement, (h) that a milk diet, which is high in protein and mineral constituents is as efficacious as one low in protein and free of salt."

Too often theories or methods of treatment have been directed to only one phase of the disease. The words of Eden in commenting on the reports of the British Congress of Obstetrics and Gynecology for 1922 are significant. He said<sup>5</sup> in speaking of the relation of the convulsions, per se, to the disease, "arrest of the fits is, however, not the same thing as control of the disease, for 22.9% of the cases in which fits

4. Gibson, H. K.: The Sequelae and Later Aspect of the Toxic Albuminurias of Pregnancy. *Surg., Gyn. & Ob.* 32: 513, June, 1921.

5. Williams, J. W.: *Obstetrics*. N. Y., D. Appleton & Co. 6th. ed., 1930.

6. Eden, T. W.: Eclampsia. *J. Obst. & Gynaec. Brit. Emp.* 29: 386, 1922.



ceased immediately after delivery nevertheless died. Termination of labor is, therefore, not the sole aim of treatment, it is not even the principal aim. The urgent indication is rather the control of the disease by elimination of the toxic bodies,<sup>7</sup> of which a lethal dose may already be in circulation, independently of the question of the possibility of their future production during the continuance of pregnancy." In other words, convulsions, hypertension, albuminuria, coma; any one of these, is only one phase of the disease. Limitation of study to only one phase can hardly be expected to bring success. Study of the basic pathological disturbances may bring hope of achieving the desired result, namely, discovery of the etiological agent.

During the past three decades considerable improvement has been made in the clinical treatment of eclampsia. This improvement has come about through the conservative method of treatment. Beneficial as this result has been, improvement has been empirical rather than based on understanding of the etiology of the disease. The results of prophylaxis through systematic prenatal care have been more satisfactory because of the resultant decrease in the incidence of eclampsia. Until we are able to say which cases of pre-eclampsia will develop convulsions and which will not we must consider every toxemia as a potential death from eclampsia.

How, then, can progress in the study of this disease be accomplished? A uniform method of study by which different individuals or different groups may correlate their work is needed. Definite criteria for the various groups of toxemias should be established with a recognition of the important features of each so that study of these conditions might proceed along uniform lines.

It is a problem in which there is urgent necessity for cooperation between many groups of individuals. The clinicians (obstetrician and internist) are primarily responsible for the care of the patient and the correlation of the work of the groups. The pathologist must do his share. Especially desirable are the studies of early and late results of eclampsia. Pre-eclampsia itself is

rarely fatal. The known pathological findings of eclampsia are those of a necrosis. Death in eclampsia usually comes early, so that little opportunity has been presented for study of the healing processes of the disease. Although rare, death in the pre-eclamptic state or late in eclampsia might occur. Such cases should have complete detailed study in an attempt to learn the pathology of the beginning of the disease and the healing and end results of eclampsia.

Thrombosis is frequently found in the capillaries of the liver in death from eclampsia. It is also urgently necessary to know of the condition of the capillaries elsewhere in the body. Cholesterol deposits are found in the liver. What of other changes in the chemical reactions of tissues in this disease? With more detailed physical study of the blood further light has been thrown on the behavior of some of its constituents during eclampsia. With the introduction of physico-chemical methods of study it is to be hoped that further information may be gained. The physiological chemist and physiologist must add their observations in the study of eclampsia.

The work of all groups must be correlated so that what may finally be expected is an understanding of etiological factors which will enable us to trace the sequence of events from the beginning of hypertension, edema or albuminuria through to the severe convulsive stage in the light of understanding of the principles involved. When that time arrives, but not until then, we can attempt to eradicate a condition which at present is one of the most hazardous risks of childbirth.

---

## THE VALUE OF STOVARSOL IN THE TREATMENT OF SYPHILIS

WALTER WILHELMJ, M. D.

EAST ST. LOUIS, ILL.

There is no crystallized formula for the treatment of syphilis; there are many formulas. These may be different in the relative choice of drugs, their combination, the routes of administration, the sequence of their use, the dosage and other details, but there is a broad underlying principle common to all. There must be adequacy of treatment with effective agents. There must be persistent therapeutic effort, irrespective

7. Substitute for the phrase "toxic bodies" any term (as yet undescribed) which identifies the real etiological agent and the concept remains true. (i. e., the etiological agent is not, of necessity, a "toxin.")

of the outcome of the Wassermann. There must be subsequent periods of surveillance.<sup>1</sup>

The most effective agents available in the treatment of syphilis are 1: The arsenic compounds, 2. Bismuth, 3. Mercury and 4. Iodides. Stovarsol is an arsenic compound, being No. 594 among the 605 preparations with which Paul Ehrlich worked before he arrived at the formula for Salvarsan "606." Ehrlich considered No. 594 unsuitable for intravenous use, because it produced harmful results when injected into mice. Investigation into the anti-syphilitic properties of stovarsol began in France in 1921. Since then there has appeared considerable literature on the oral administration of stovarsol as a prophylactic and therapeutic agent in syphilis. The German literature referring to it as "Spirozid," French literature as "Stovarsol" and Russian as "Osarol."

J. Tuscherer,<sup>3</sup> Paul V. Kiss<sup>4</sup> and Alois Bratusch-Morrain<sup>5</sup> have all worked out dosage tables, the Bratusch-Morrain table being most generally used applies to infants. He has the impression that the same basis of dosage holds for older children, but that in central nervous syphilis larger doses give a better result; his dosage table follows:

For 7 days 0.005 grams of stovarsol times kilos body weight.

For 7 days 0.01 grams of stovarsol times kilos body weight.

For 7 days 0.015 grams of stovarsol times kilos body weight.

For 42 days 0.02 grams of stovarsol times kilos body weight.

After this, a rest period of four to six weeks follows, courses of treatment and rest periods being repeated until serologically negative and three times after.

Toxic effects of stovarsol have been noted more frequently by American authors<sup>6-7-8</sup> than by European authors. Various authors report the same toxic manifestations that we frequently see following the intravenous administration of arsphenamine, only very much milder in character. Individual tolerance no doubt plays its role, since one of my patients, an adult tabetic, took ten 0.25 grams tablets daily for two weeks without any untoward effects, except a slight diarrhea which subsided immediately upon the withdrawal of the drug.

Not many remedies are accorded the enthusiasm that stovarsol has received for the

treatment of congenital syphilis; all authors report favorable effects upon the signs of syphilis; clinical symptoms disappearing in from three to four weeks; the skin clears from one to four weeks; the spleen and liver regressing in from four to eight weeks. However, there is fairly uniform agreement that stovarsol is less effective in reversing the Wassermann and that longer periods of treatment are necessary than with other methods of treatment. In adult syphilis the drug has been used extensively with equally gratifying results.

The first article to appear in this country was by Creger and Gastineau<sup>2</sup> reporting fifteen cases of adult syphilis treated with stovarsol and concluding that stovarsol has a place in the treatment of syphilis. Accurate dosage is yet to be determined and that its efficiency is comparable to that of neoarsphenamine. Maxwell and Glaser<sup>6</sup> report ten cases of congenital syphilis treated with stovarsol and state that the drug cannot be used indiscriminately and that the exact position which stovarsol should occupy in the treatment of congenital lues remains yet to be determined; that the advantages of the per oral treatment of congenital lues over other methods usually employed are evident. Abt and Traisman<sup>7</sup> report in detail twenty-two cases of congenital syphilis treated with stovarsol and conclude that stovarsol in the treatment of congenital syphilis is an effective and rapidly acting antisyphilitic remedy; the medication is easily administered and easily controlled and that their results warrant the belief that the per oral administration of stovarsol is the method of choice in the treatment of congenital syphilis. Harold A. Rosenbaum<sup>8</sup> reports forty-one cases of congenital syphilis treated with stovarsol and states that clinical results were excellent and that he obtained a serologic reversal in all cases. Tuscherer<sup>3</sup> says that the effect of stovarsol on the signs of syphilis and in reversing Wasserman reaction is in no way inferior to that obtained by the generally employed injection treatment with arsphenamine and mercury. Bratusch-Morrain<sup>5</sup> reports ninety-eight cases of congenital lues under treatment. Forty-seven were under treatment with stovarsol; twenty (or 42.7%) of these became sero-negative, while fifty-one were being treated with neosalvarsan and mercury, fifteen (or 29.4%) became sero-negative. VonKiss<sup>4</sup> in his series of eighteen cases



treated with stovarsol reports seven as sero-negative.

The fact that results obtained with the present method of intra-venous arsenical therapy is not entirely satisfactory in all cases of syphilis, led me to prescribe stovarsol to A. C. age 20, body weight 98 pounds. She had been under intensive intravenous and intramuscular injections since August, 1925; recurrent skin and mucous membrane lesions frequently manifesting themselves. In October, 1928, she developed severe headache and was obliged to remain in bed. I prescribed four stovarsol tablets 0.25 grams per day; on the second day following I was surprised to see her walking into my office and stating that she had slept well the previous night and that her headache had entirely disappeared. She continued to take the stovarsol for six weeks and during the rest period of three weeks Mercury bichloride in elixir iron, quinine and strychnine. This regime was continued until November, 1929, when she was given a series of fourteen intramuscular injections of bismuth. She had no subsequent relapses. The last I saw her was July, 1930, clinically and serologically negative.

E. R., aged 7 years, weight 60 pounds, indurated prepuce ulceration, dark field positive, Kahn negative, was given seven intramuscular injections of sulpharsphenamine 0.3 grams at weekly intervals, following this series of sulpharsphenamine injection his blood was Kahn 2 plus. I then put him on stovarsol discontinuously i. e. one stovarsol tablet 0.25 grams three times daily for four days, then a three day rest. This was continued for six weeks, at which time his Kahn was negative. He had three additional such courses, he remained clinically and serologically negative.

R. A., aged 10 years, weight 70 pounds, healed indurated ulceration on prepuce, suppurating syphilides over buttocks and thighs, dark field positive, Kahn 4 plus, was given seven intramuscular injections of sulpharsphenamine 0.3 grams at weekly intervals, his blood at this time was Kahn 3 plus. All other ulcerations having healed, he was given a course of stovarsol the same as the previous case and his blood was Kahn negative after the first course of stovarsol and he has remained clinically and serologically negative.

J. H., aged 12 years, weight 90 pounds, Hutchinson teeth, interstitial keratitis for five weeks, Kahn 4 plus. He was given stovarsol tablets, one tablet 0.25 grams three times daily for four days then a rest for three days. This was repeated for twelve consecutive weeks. All of his symptoms having cleared his Kahn remained 4 plus. Dr. Spitze was kind enough to observe this boy's eye and he reported to me that recovery of the eye was probably more rapid than with arsphenamine

intravenously and without any manifestation of a Heixheimer reaction.

C. Mc., aged 3 months, weight 8 pounds, snuffles, luetic facies, desquamating palms and soles. She was given  $\frac{1}{2}$  stovarsol tablet 0.25 grams per day for 9 consecutive weeks. At this time she had made a gain in weight of  $2\frac{1}{2}$  pounds, no evidence of snuffles, palms and soles clean and development excellent.

J. S., aged 25 years, weight 145 pounds, chancre of left tonsil, indurated area extending beyond anterior pillar and involving palate. Dark field positive, Kahn 4 plus. He was given two 0.25 grams stovarsol tablets 3 times daily for 4 days and rest period of 3 days for seven consecutive weeks. The tonsillar ulceration had healed and was covered with healthy mucous membrane on the 12th day.

#### CONCLUSIONS

1. I began the use of stovarsol in certain cases of lues in 1928. The cases reported are a cross section of the type of cases that were treated with this drug.

2. Reactions have been rare and very mild and without any exception, when a reaction did occur, abated immediately upon the withdrawal of the drug.

3. Patients taking stovarsol should report for observation every fourth or fifth day.

4. Dosage must be worked out by the physician to suit the individual case. In my hands the discontinuous method of administering the drug has proven itself most satisfactory, this implies to take the tablets for four days and follow with a rest period for three days, repeating this for nine or ten consecutive weeks for a course. Children from six to twelve years of age weighing from 50 to 80 pounds can safely take two or three 0.25 grams tablets per day. Four 0.25 gms. tablets per day apparently is an adequate adult dose. Infants obviously must be given smaller doses.

5. The per oral administration of stovarsol is the remedy of choice in the treatment of syphilis in children, cooperation of parents and patients being far better than with the injection methods.

6. Stovarsol per oram is comparable to arsphenamine intravenously as a rapidly acting anti-syphilitic remedy on the clinical signs of syphilis and the serological reaction.

#### REFERENCES

1. Jay F. Schamberg and Carrol S. Wright: Reprint No. 17, Venereal Disease Information, 10:, 1929.
2. Frank W. Gregor and Frank Gesteinar: "Stovarsol in the Treatment of Syphilis," *Archiv. of Derm. and Syph.* 15: 43-53, 1927.

3. J. Tuscherer: "Zur Behandlung der Lues Congenita mit Spirocid." *Monts. f. Kinderh.*, 45: 63-67, 1929.
4. Paul V. Kiss: "Der Heutige Stand der Peroralen Behandlung der Lues Congenita." *Jahrb. f. Kinderh.*, 126: 211-221, 1930.
5. Alois Bratusch-Morrain: "Wert unter Durchfuhrung der Spirocidbehandlung der Syphilis in Kindesalter." *Archiv. f. Kinderh.*, 92: 26-39, 1930.
6. Maxwell and Glaser: "Stovarsol in Congenital Syphilis," *Amer. J. Dis. Children*, 43: 1461-1489, 1932.
7. Abt and Traisman: "Stovarsol in the per Oral Treatment of Congenital Syphilis," *J. of Ped.*, 1: 172-183, 1932.
8. Harold A. Rosenbaum: "Stovarsol in the Treatment of Syphilis in Infants and Children." *Amer. J. of Dis. of Children*, 44: 25-30, 1932.

## THE TREATMENT FOR CHOREA BY MEANS OF TYPHOID VACCINE INJECTIONS

EMIL T. HOVERSON, M. A., M. D.

Asst. Physician, Kankakee State Hospital

KANKAKEE, ILLINOIS

Two cases of acute chorea and four of Huntington's type of the disease have been treated with typhoid vaccine injections during the past year at the Kankakee State Hospital, with results which seem to be of particular interest.

A brief review of the various attempts made by others during the last twenty years to bring relief to those afflicted with the malady is presented herewith, as the basis for a better understanding of the evolution of treatment for the condition.

In the decade preceding 1923, many procedures were followed in treating chorea, none of which produced real improvement or lasting results. About all that can be said of them is that amelioration of the symptoms was sometimes achieved. Since 1923, several forms of treatment have been introduced which have yielded more promising results. Particularly is this so in the case of acute chorea.

White and Jelliffe<sup>1</sup> in 1913 summarized the earlier efforts by stating that for the Sydenham type of chorea an understanding of the patient himself should first of all be reached, and then an effort should be made to have the environment conform to his needs. In addition, they recommended that additional treatment include rest in bed, appropriate hydrotherapy, special diets, and corrective measures directed towards the elimination of disease foci from the body. The use of such drugs as sodium salicylate, Fowler's solution and antipyrine (the last-named in rather large doses) was urged, and also administration of sedatives such as strontium bro-

mide. Four years later (1917) the same authors<sup>2</sup> in another text-book, advocated no essential change in the treatment, but the use of Fowler's solution seems more strongly stressed.

The form of treatment recommended by them was the one in general use in this country until a few years ago, as is testified by the absence of any essential change in the therapy outlined in even recent text-books on the subject. In fact, the *Journal A. M. A.*<sup>3</sup> in response to an inquiry addressed to the Answers and Queries section, pointed out that the treatment for chorea is non-specific, should include rest in bed, appropriate hydrotherapy, potassium arsenite, and salicylates. The comment was made that "this is all that is known about the treatment of chorea."

Regarding the more chronic form of chorea known as Huntington's, all references are agreed that there is no treatment for this condition, other than rest in bed and the use of sedative drugs.

Various attempts which were made to combat successfully the malady include the use of phenyl-ethyl-hydantoin, otherwise known as nirvanol, which was introduced by Husler<sup>4</sup> in 1924. He reported having obtained good results and lasting improvement with its use. His report is one of the first instances of lasting improvement having been secured in treating chorea, and is in contrast to the earlier results of attempted therapy, which tended merely to diminish the severity of the presenting symptoms during the acute stage.

In 1930, six years after the introduction of nirvanol, Pilcher and Gerstenberger<sup>5</sup> reported its use in the United States. They administered it in doses of 0.1 to 0.15 grams three times daily. Continuing this medication from six to nine days, dependent upon the case, a temperature was produced in the patient. Sometimes the fever reached 104 degrees F. A body rash appeared at about the same time as the fever occurred. At this stage, the drug was no longer given. The results of this form of therapy were gratifying, but it was observed that complications, especially those of a pulmonary character, occurred, and the use of nirvanol was therefore not highly recommended by them.

Jones and Jacobs<sup>6</sup> in 1932 used nirvanol in treating three obstinate cases of chorea, but they did not obtain any permanent results. This observation agrees with the experiences of others



who claim that there is no special treatment for Huntington's chorea.

From the foregoing it is seen that nirvanol apparently did not prove to be the drug of choice, partly because of its limitations and partly because of the complications following its use.

At about this time, Drucker<sup>7</sup> introduced a drug known as phenobarbital into the treatment for chorea minor. Phenobarbital was administered in rather large doses until a generalized body rash, or other symptoms of drug intoxication, appeared in the patient. The body rash was accompanied by a rise in the patient's temperature. In over half of the cases so treated, a clinical recovery within two weeks was observed. Because no complications were observed, the use of phenobarbital was recommended as being safer and more efficacious than nirvanol in such instances.

Going back a little chronologically, it is found that at about the time nirvanol was first being advocated, Kern<sup>8</sup> in 1923 introduced artificial fever therapy for acute chorea. The fever was produced by the injection of milk into the buttock. Excellent results with lasting improvement were reported therefrom.

From that time on, foreign protein therapy became widely used in Central Europe in combating chorea, but apparently it was not employed in America, as the current literature contains scant reference to this form of therapy.

In connection with the use of foreign protein therapy, Turnovszky<sup>9</sup> wrote that he early promulgated the theory of interferential treatment, that is, the theory that an incidental disease affecting the organism causes another already existing disease to be cured. Thus, he observed that certain cases of chorea were cured following an attack of typhoid fever.

The next reference appearing chronologically is that of Ayla<sup>10</sup> who cited a case of a twelve-year-old child with acute chorea with whom many forms of treatment had failed. Following the inoculation with *treponema Hispanicum*, the second temperature rise resulted in a total and permanent cure of the condition.

It becomes apparent from the foregoing review that all the methods have in common the production of a body temperature, and that any improvement, which may occur, was observed after the temperature rise. Although the older methods did alleviate or lessen the symptoms, they did not induce a temperature rise, and as

was previously stated, no lasting results were obtained.

Sutton<sup>11</sup> was apparently unaware of any previous work with artificial fever in the treatment of chorea, for she deduced from the use of phenobarbital that those patients who developed the most marked improvement were also those who had developed fevers, and thus came to the conclusion that it was the fever rather than the drug which was the beneficial agent. Hence, she instituted experiments using typhoid vaccine intravenously. A general improvement followed, and in some cases, complete recovery.

Since the completion of the present report, there has appeared an article by Capper and Bauer<sup>12</sup> in which they reported excellent results from the use of typhoid vaccine—an observation which coincides with that of Sutton.

Coming now to the subject immediately under consideration the work at the Kankakee State Hospital was based on the production of fever as a resultant of the intravenous injection of typhoid vaccine. In spite of the small number of cases so treated, the end results indicate that typhoid vaccine is of definite value in the treatment of acute chorea, and of doubtful value in that of the Huntington's type of chorea.

A brief description of each case follows:

Case 1. Classification—Psychosis with Huntington's Chorea.

Admitted here on October 17, 1931. White male, aged 48 years. The physical examination revealed no gross abnormal findings in either the heart, lungs or abdomen. The blood pressure was 130/80. The pupils were regular and equal but stationary to light changes. All deep reflexes, although equal, were exaggerated. The laboratory examinations, including a blood Wassermann and a Kahn on both the blood serum and the spinal fluid, were negative. There were choreiform movements of all extremities, with almost constant facial grimaces. Patient was presented and classified as a case of psychosis with Huntington's chorea.

Treatment consisted of ten injections of typhoid vaccine in graduated doses, the initial one being fifty million. Following the first three temperature rises, a change was noticed in the patient's condition in that there was an almost complete cessation of the choreiform movements. He was able to perform tasks which he had been previously unable to do. The facial grimaces continued as before treatment. At the present time, one year after the discontinuance of treatments, the patient's condition has reverted back to the state existing before treatments. Although he did show improvement, this was not lasting, or complete.

Case 2. Classification—Psychosis with Huntington's Chorea.

Admitted here on October 7, 1932. Colored male, aged 46 years. The physical examination showed no gross abnormalities in either the heart, lungs or abdomen. The blood pressure was 120/80. The neurological examination showed absent knee jerks, and pupils, although regular and equal, reacted sluggishly to light changes. All laboratory examinations, including spinal fluid, were recorded as negative. There were choreiform movements of all extremities. The patient was classified as a case of psychosis with Huntington's chorea.

Treatment consisted of ten injections of typhoid vaccine, given intravenously, twice a week. Although the patient himself was elated with the results, practically no change was noticed in the chorea when the treatments were discontinued. However, at the end of a year's time, there has been a complete cessation of the choreiform movements.

Case 3. Classification—Psychosis with Huntington's Chorea.

Admitted here on August 26, 1932. Colored male, aged 44 years. The physical and neurological examinations showed nothing abnormal except almost constant choreiform movements of all extremities. The blood pressure was 130/80. Classified as psychosis with Huntington's chorea by the medical staff.

Treatment consisted of fifteen injections of typhoid vaccine, given twice a week. After a year of observation there has been noticed no change in the chorea.

Case 4. Classification — Undiagnosed Psychosis (Huntington's Chorea).

Patient was admitted here on July 21, 1933. White male, aged 48 years. The blood pressure was 120/80. Physical examination showed no gross abnormal findings. Neurologically patient presented equal but hyperactive knee jerks. All laboratory examinations including a blood Wassermann and a spinal fluid examination, were negative. Five years before his admission to the Kankakee State Hospital, his condition had been diagnosed as Huntington's chorea.

Treatment consisted of eight fever treatments, with temperature elevations to 103 degrees F. There was a complete disappearance of all choreiform movements at the end of the sixth treatment. The patient stated that that was the first time during the past five years that he had been free from the choreic movements.

The preceding cases were classified by the medical staff of the Kankakee State Hospital as being of the Huntington's type of chorea. In one of these four cases, there was no change in the patient's condition; in the second instance, a temporary improvement was observed; in the other cases (representing one-half of the treated cases) there was a complete disappearance of the chorea. Even a slight mitigation of the symptoms, while it lasted, was a source of comfort to the patient.

The remaining two cases, which were treated by other physicians, were obtained from the

records of the Kankakee State Hospital and are included because of the remarkable and rapid disappearance of the chorea in contrast with the slower improvement noticed in Huntington's chorea. Case 5 was completely relieved of all symptoms after the second temperature rise. In case 6, the improvement, although not so rapid, was as complete as that obtained in Case 5.

Case 5. Classification—Without Psychosis, Sydenham's Chorea.

Admitted here on March 16, 1932. White female, aged 15 years. Physical examination revealed no gross abnormalities in either the lungs, heart or chest. Blood pressure was 110/80. Neurological examination showed no abnormal findings other than regular and equal dilated pupils that reacted well to light changes and in accommodation. All deep reflexes were exaggerated. All laboratory examinations were indicative of no pathology. The patient had coarse, purposeless movements of all extremities, especially of the uppers. Patient was presented and classified as being without psychosis, Sydenham's chorea.

Treatment consisted of seven injections of typhoid vaccine, given twice a week. Following the second temperature rise, there was an abatement of the choreiform symptoms. At the present time patient has left the hospital, and has been free of all symptoms of chorea.

Case 6. Classification—Psychosis with other brain or nervous diseases, acute chorea.

Admitted here on August 15, 1931. White male, 22 years old. Physical examination showed nothing abnormal in the heart, lungs or abdomen. Neurological examination showed dilated but regular and equal pupils. All reflexes were exaggerated but equal. Presented and classified as psychosis with other brain and nervous diseases, acute chorea.

Treatment consisted of 32 injections of typhoid vaccine. After the first twelve injections, all major symptoms of chorea had disappeared, and all that remained was an occasional facial grimace. Upon the patient's insistence, treatments were continued. Patient was discharged free of all symptoms, and has remained so.

Only the salient points in each case history have been given here. All six patients presented the symptoms of chorea, two those of an acute chorea, and four the symptoms of chronic chorea. All of the patients have been under observation at this Hospital, for over a year, or at home for over that length of time (case 4 excluded).

## CONCLUSIONS:

1. Six patients, four suffering from the Huntington's type of chorea and two of Sydenham's have been treated by fever therapy, which was induced by the intravenous injection of typhoid vaccine.

2. In the cases of Sydenham's chorea, there was a complete recovery from the chorea.

3. Regarding the more chronic chorea, two



patients showed a recovery, one a temporary improvement, and one no change.

4. It follows that fever therapy is of definite value both for the acute and the chronic forms of chorea.

Case 5 has been included in this report through the courtesy of Dr. Hunter of the Kankakee State Hospital, and Case 6 through the courtesy of Dr. Cohn of the same institution.

#### REFERENCES

1. White, W. A., and Jelliffe, S. E.: *Modern Treatment of Nervous and Mental Diseases*. 3: 208, Lea and Febiger, Philadelphia and New York, 1913.
2. White, W. A., and Jelliffe, S. E.: *Diseases of the Nervous System*, page 517, Lea and Febiger, Philadelphia and New York, 1917.
3. *Queries and Answers*, J. A. M. A., 94: 430, 1930.
4. Husler, J.: *Ztschr. f. Kinderh.*, 38: 408-411, 1924.
5. Pilcher, J. D., and Gerstenberger, H. J.: *Treatment of Chorea with Phenyl-ethyl-hydantoin*, *Amer. J. Dis. of Child.*, 40: 1239-1249, 1930.
6. Jones, T. D., and Jacobs, J. L.: *The Treatment of Obstinate Chorea with Nirvanol*, *J. A. M. A.* 99: 18-21, 1932.
7. Drucker, P.: *Phenobarbital Treatment of Chorea Minor*, *Hospitalstid.* 75: 1062-1066, 1932.
8. Kern, T.: *Wien klin. Wchnschr.*, 36: 164-165, 1923.
9. Turnovsky, M.: *News from Roumania*, *J. A. M. A.*, 95: 1113, 1930.
10. Ayla, Mas. De.: *Therapeutic Relapsing Fever from Innoculation with Treponema Hispanicum as Treatment for Chorea*, *Annals de la Facultad de Medicina*, 15: 544, 1930.
11. Sutton, L. P.: *Treatment of Chorea by the Induction of Fever*, *J. A. M. A.*, 97: 299-301, 1931.
12. Capper, Aaron and Bauer, Edward, L.: *Typhoid Vaccine in the Treatment of Chorea*, *Amer. J. Med. Sc.*, 186: 390-400, 1933.

## ACQUIRED EXTERNAL FECAL FISTULAE INVOLVING THE ANTERIOR OR LATERAL ABDOMINAL WALL

AIMÉ PAUL HEINECK, M. D.

Surgeon to the St. Paul, the Francis Willard and the American Hospitals

CHICAGO

A fistula is an abnormal channel of communication existing between two hollow viscera or between a viscus and the surface of the body. Fistulae are congenital or acquired: the latter being pathological, traumatic, or post-operative. By some clinicians, fistulae are classified according to their anatomical location, duodenal, intestinal, colonic, etc., by others according to the nature of their discharge, salivary, urinary, fecal, etc. The acquired post-operative fistulae discussed in this paper, we designate as external, because they have an outlet on the surface of the body; as fecal, because they communicate with the alimentary canal and discharge intestinal

secretions and feces. They are all fistulae of the small or large intestine; no segment of the alimentary canal between the duodenum and the anus being immune. (Mayo, Christopher.\*) Such abnormal communications between the lumen of the gut and the abdominal wall as are created deliberately or established intentionally by the surgeon, to put a gut-segment at rest, to drain the bowel, to introduce fluids and nourishment, to relieve intestinal obstruction will receive nothing more than passing mention in this paper.

Most of the external abdominal fistulae herein considered are post-operative in occurrence. A few occurred spontaneously resulting from some abdominal lesion, such as a localized abscess secondary to a perforating gastric or duodenal ulcer, to a suppurative appendicitis in which operation has been unduly delayed, to a malignant disease of the intestine, etc. Fecal fistulae are most depressing and demoralizing to patients; such patients being prone to exaggerate to themselves their more or less fancied repulsiveness. A fecal fistula is often a most formidable and difficult condition to overcome, taxing to the utmost the ingenuity of the medical attendant and demanding the best surgical talent available. Owing to lack of adequate rest from the associated discomfort and to the quantity of nourishment lost by food escaping from the fistulous opening, these patients lose in weight. They soon learn that food-taking is followed by increased peristalsis and increased pain and discomfort consequent to the escape from the fistula of irritating bowel contents.

Fistulae are grouped as internal, external or combined. The external include all cases in which the fistulous tract or tracts discharge either by one, two or more openings on the external surface of the body; the internal, in which there is an abnormal communication between the lumina of two or more hollow viscera, those in which the fistulous tract has only internal outlets; the combined, in which the fistulous tract not only establishes a communication between two hollow viscera but also has an external opening either in the vagina, the abdominal wall or elsewhere. The discharge, may be intermittent, may be continuous; may be scant, moderate or profuse; may be gas alone; may consist of bile, pancreatic juice or intestinal contents. In 1923,

\*Bibliographical references are arranged in alphabetical order.

I reported a case of intestinal fistula following a cholecystostomy in which tape-worm segments were expelled through the fistulous opening. I have since seen two similar cases. (Heineck)

The external orifice, mucous membrane, rarely cutaneous, almost always is surrounded by an excoriated, ulcerated, painful and often partially digested area due to the irritation of bile, pancreatic secretion and partly digested intestinal contents. Often the nature of the discharge enables one to determine readily the site of the internal orifice or orifices of the fistulae. The external orifice may be small, may be large, may be pin-head in size. In fistulae secondary to diverticulitis, the opening may not be larger than a knitting needle.

Determine the character, size and location of the inner fistular orifice and the approximate length, course, chronicity, tortuosity, ramifications and nature of the fistulous tract by taking an x-ray picture of the fistular region after ingestion of a barium meal and injection of a barium enema, supplemented by the injection in the fistulous tract of an opaque medium; an opaque catheter inserted in the fistula may prove serviceable. Administration of aniline dyes in the food or per rectum and their subsequent appearance in the fistulous discharge further establishes the diagnosis. Exclude the presence of a sinus infected with colon bacilli and giving rise to drainage resembling fecal material. Aniline dyes will aid you. Fistulae connected with some part of the ascending, transverse or descending colon are uncommon and the discharge that accompanies them is less liquid and usually less irritating. Mayo reports a case of fecal fistula developing after an appendectomy. This fistula that had remained unclosed for fifteen months, had two internal colonic openings, one in the hepatic flexure, the other in the transverse colon. It was closed permanently by bringing the two openings close together and closing them. External cecal fistula, the result of operations for appendicitis, is by far the most common type of fecal fistula of the colon. Of 264 cases of fecal fistulae observed at the Mayo clinic, over one-third, ninety-eight cases, were shown by Rankin and Gorder to be due to appendicitis, acute and gangrenous, or appendiceal abscess. (Rankin, et al.)

Fistulae may have a sinuous course. The in-

ternal and external orifices or both may be single, double, multiple. These orifices vary in size and in outline. In some cases, the mucous membrane of the gut is adherent to the skin; in many, a fibrous tract or sinus connects the gut with the skin opening; while in others the gut opens into an abscess cavity connected with the surface. In cases due to trauma, as in gunshot wounds, the fecal fistula may be complicated by hemorrhage, by compound fractures, etc.

*Etiology.* Fistulae occur at all ages and in both sexes and in connection with various abdominal lesions as from the spontaneous rupture or the surgical evacuation through the abdominal wall of a localized abscess resulting:

1. From a perforating or perforated duodenal or gastric ulcer.

2. From the rarer types of perforating ulcer of the alimentary canal; typhoid, tubercular, dysenteric, carcinomatous, etc.

3. From an infected appendix for which surgical relief has been unduly delayed. Deaver reports 200 cases of fecal fistulae developing in 4,063 cases of acute appendicitis. This represents 5 per cent. Pus was present in varying amounts in every case of this series and required drainage. In a large percentage of these cases, ulceration of the cecum or terminal ileum had been observed during the primary appendectomy operation. It is generally admitted that cases with a perforation at the base of the appendix show a definite tendency to the development of fecal fistula. Gibson in 1,583 cases of appendicitis found 19 cases of fecal fistula, 1.3 per cent. Muhsam analyzed 1,253 operations for appendicitis. In the first 441 cases, there were 78 fecal fistulas; in the last 815 there were only 54. In 2,841 consecutive cases of acute appendicitis treated at the Mount Sinai Hospital, N. Y., 1.1% developed fecal fistulae. "It is most frequently seen in cases of acute gangrenous appendicitis with perforation or with abscess in which the cecal or ileal walls are involved in the inflammatory process, but it may be due to poor surgical procedures. (Colp.)

4. From a localized infection in close proximity to some intestinal loop, when the purulent material is not promptly evacuated by the surgeon.

5. From malignant disease of the intestines: cecum, colon, sigmoid, etc.



6. From strangulated intestinal hernia, irrespective of anatomical type or location. (W. D. Haggard) says that a small percentage of cases of strangulated hernia, *not operated upon*, will recover with a fecal fistula and artificial anus. He reports 5 such cases; 4 were in women; 1 in a boy of six. Three of the hernias were femoral, two inguinal; two ruptured spontaneously; three were opened for abscess; all drained fecal matter. All patients recovered following operative treatment of the fistula.

7. From diverticulitis, "The abdominal wall is very rarely perforated by infection. Such a condition, however, accounts for a small percentage of the cases in which fistulae occur in the lower abdomen, secondary to diverticulitis." (Mayo.)

8. From accidental or operative injury to the abdominal wall and abdominal viscera: penetrating and perforating stab and gun-shot wounds in military and civil life. P. Luckhardt-Mummery reports among other interesting cases of fecal fistulae, one in which there were two internal fistulous openings, the upper one, in the jejunum (fecal), the lower one, in the bladder and ileum, urine and feces escaping from it. Fistulae have followed operations for intestinal obstruction, volvulus (Constantini), for pelvic infections in the female.

Fecal fistulae have followed the slipping of improperly, carelessly applied sutures; have also followed the premature absorption of catgut suture material. Minimize the incidence of these mishaps by encircling the base of the appendix with a ligature that penetrates but does not perforate the appendiceal wall. Supplement this ligation by a few catgut stitches that enfold and bury the appendiceal stump in a small cecal pouch.

A large number of the fecal fistulas that have come under my care occurred after abdominal operations performed on patients that had, at some previous date, been laparotomized. These were accidents of commission; the overconfident operator in opening the abdomen had carried his incision into a loop of gut adherent to the abdominal wall either at the incisional scar or close to it. Another condition fraught with danger met with in reopening abdomens is the presence of adhesions, inflammatory in nature, binding loops of gut to one another or to the parietal

peritoneum. In separating these adhesions, the intestinal serosa is frequently injured, and if the gut be perforated, be torn, and these injuries are not suitably repaired, a fecal fistula may result. I have seen cases due to this cause and have successfully treated a number of them by the method hereinafter described.

*Treatment.* Many fecal fistulae are operative or post-operative in origin and are due to errors of commission or omission on the part of the surgeon. (Erdmann.) A careful study of the etiological factors previously enumerated leads one to conclude that the incidence of fecal fistulae can be much lessened.

a. By timely operative relief of all abdominal conditions that call for surgical intervention. The diagnosis being established, or better the indication for operative relief being present, do not delay. Among the unfortunate sequelae of appendicitis, fecal fistulae occupies the first place. (Baldwin.) Howard A. Kelly quotes five surgeons as having respectively 3.5%, 5%, 18%, and 6.6% of fistulae in their appendectomies.

Appendicitis, ectopic pregnancy, intra-abdominal pus collections, strangulated hernias, perforations of the intestines, irrespective of type or location, for all of these, immediate operative relief is imperative.

b. By avoiding hurried operating, by avoiding undue haste. It is not that operations should be prolonged but they should be performed in the shortest possible time consistent with safety, accuracy and thoroughness. In pelvic surgery, the danger of perforating the gut should lead one to be most gentle in the separation of adhesions, and to avoid rough surgical manipulations.

c. By securing a good exposure of the operative field, employing incisions adequate in length, having proper illumination and discarding silk suture material and avoiding needless rough handling of inflamed intestines. Sloughing of a portion of gangrenous cecum is not an uncommon factor in producing fecal fistula; hence, in operating upon patients with acute gangrenous appendicitis, intestinal obstruction, etc., the intestines, especially the cecum, should be approached and handled with great care. The same precaution must be observed in operating upon a strangulated hernia. Crile advises that no gauze or drain be left in contact with the

cecum. Avoid silk as buried suture or ligature material.

d. By separating and dividing inflammatory abdominal adhesions, with care and great gentleness, and by peritonizing when possible all denuded or eroded gut surfaces.

e. By endeavoring to prevent such relatively avoidable accidents as slipping of ligatures, premature absorption of sutures, erosions of the gut due to improperly applied, faulty, rigid or prolonged drainage, improper closure of perforations of the intestine, and especially by being careful in opening the abdominal cavity not to cut into a loop of gut adherent to the abdominal wall. This latter accident most frequently occurs in operating on patients who have been previously laparotomized. Therefore, in abdominal sections, be most careful in incising the parietal peritoneum.

f. By not attaching a loop of gut to, or enclosing it in, the abdominal wall, by the sutures that close the latter.

Actual treatment of the fistula with the view to permanent cure is of two kinds: operative and non-operative. To intelligently treat one of these cases, it is well to have a detailed knowledge of the characteristics of the case at hand. These being known, one can more judiciously select the appropriate line of treatment. All methods count successes and register failures. This is confirmed by the experience of all clinicians.

As about eighty per cent. of these fistulae heal spontaneously, one resorts to their operative closure only after the patient and long-continued employment of accepted methods of non-operative treatment have proven unsuccessful. If the patient receives adequate nourishment, if he does not show signs of malnutrition, opportunity should be given for spontaneous healing and operation deferred. Conservative methods are so frequently attended by success that in the absence of urgency, one should wait several months before proposing a radical operation. Prolonged conservative treatment in these cases has the advantage that during the preoperative period the thickening, infiltration and edema of the mesentery disappears and thus, the latter thereby regains much if not all of its normal flexibility.

The type of fistula in which the fistulous opening comes to the parietal peritoneum without an intervening cavity gives the most unfavorable

prognosis. The higher the leak, the more serious it is. A fistula high up in the small intestine may cause death from inanition; therefore, such fistulae call for early surgical relief. Other factors influencing the prognosis are the resistance of the patient, the volume of pancreatic juice in the intestinal secretion, the intra-intestinal pressure, the persistence and thoroughness of treatment, etc.

In Deaver's series, 73 (37%) of the fistulae healed spontaneously, 97 cases (48.5%) required operative repair; 29 patients refused operation. The longest duration of a fecal fistula in Deaver's series without operative relief was seven years. In 60% of the cases, simple inversion of the fistulous opening by a purse string linen suture reinforced by an additional suture line was all the surgery necessary. Fifteen (15%) required an ileocolostomy to short-circuit the affected bowel. Twenty-three (23%) presented multiple fistulae or a very large fistular opening which could not be treated by simple surgery. Eighty (80) of the 97 cases operated on were discharged perfectly healed.

The following non-operative method of treatment has proven most successful in our hands and we feel that it deserves extended use.

1. A morning and evening enema sufficient in volume to not quite fill that portion of the gut distal to or below the fistular opening, taking care that none of the enema-fluid escape through the abdominal opening. Thereby, the voiding of the intestinal contents through the natural channels is assisted, the fistular discharge minimized and the irritation of the skin lessened. We have not felt the necessity in cases of this nature, to limit the patient to liquid foods. On the contrary, we urge that the patient partake of a generous and substantial soft diet as it is of the greatest importance that his strength be maintained.

2. Protection of the skin-area surrounding the external fistulous opening and also of the fistulous crater with gauze saturated with 10 per cent. peptone solution. Be careful not to plug the fistulous tract. To neutralize the alkalinity of the intestinal juice, it is well to inject at least three times daily, oftener if feasible, a decinormal solution of H C 1 in the fistulous tract. We have found 10 per cent. peptone solution protective and soothing to the excoriated skin sur-



face. It is important that the dressing be frequently changed. If the skin be non-protected, by this or a similar solution, it is macerated by the irritative and destructive action of the intestinal juices.

When conservative measures have been faithfully and intelligently tried and proven unsuccessful, operative measures are in order. The careful preliminary preparation of the abdominal skin and of the patient contributes to the successful outcome of the various operative measures employed. See that your patient's resistance is at its best. Usually the closure of these fistulae is obtained by a simple operative procedure but at times relief is effected only by means of a complicated intervention.

The preliminary preparation of an undernourished patient with fecal fistula is most important because the operation may and often does resolve itself into a major operation. One should always ascertain that there is no bowel obstruction distal to the site of the fistular opening. One of the most annoying, most disagreeable feature of a cecal and in fact of all fecal fistulae is an excoriation of the skin, productive of masses of granulation tissue surrounding the opening on the abdominal wall. Frequently, the entire side of the abdomen is found in this painful state. This condition of the skin makes closure difficult. Highly satisfactory results frequently attend the combined employment of soothing ointments spread over the involved area and a water or electric suction pump connected to a catheter with several added openings the tip of which is inserted into the fistulous tract as far as possible. By means of this continuous suction, the overflow over the abdominal wall of irritating fluids is markedly lessened. The intestinal juices quickly permeate, quickly undermine any layer of ointment, paste or paraffin. In the non-operative treatment and also as preparatory treatment to operation, I instruct the nurse to keep in constant contact with the abdominal fistular orifice and with the fistulous tract gauze saturated with a ten per cent, peptone solution, and also to inject frequently into the fistula a deci-normal solution of hydrochloric acid. The latter solution to a certain extent neutralizes the alkalinity of the pancreatic juice, furthermore, the latter expends itself on the peptone solution instead of on the abdominal wall.

It is essential to carefully aseptize the abdominal wall and also to suture the fistulous opening thereby avoiding leakage into the peritoneal cavity. Some operators open the abdominal cavity to one side of and well away from the fistulous opening; others circumscribe freely by two elliptical incisions the perforated zone. With the parts well exposed, completely free the gut and fistula in one piece. Resect the fistulous tract. If the opening in the gut be small invert it, and suture the intestine along its transverse axis to avoid narrowing of the channel. A double line of suture is advisable to avoid leakage and to prevent premature detachment or absorption of sutures. This is very simply effected and in by far the largest number of cases, as shown in the accompanying table, meets the indications.

In Rankin and Gorder's series of 264 cases fecal fistulae, the following 379 operations were performed. There were 27 deaths, peritonitis 16, bronchopneumonia and inanition, 3, vesico-intestinal fistula 8.

Simple Closure .....	189
Resection .....	60
Colostomy .....	22
Ileocolostomy .....	11
Ileosigmoidostomy .....	3
Cesosigmoidostomy .....	1
Colocolostomy .....	2
Cecostomy .....	1
Ileostomy .....	11
Appendicostomy .....	1
Lateral anastomosis of loops of bowel (ileum)....	8
Closure of colostomy .....	6
Dilatation and curetment of sinus tract.....	35
Incision and drainage of sinus tract.....	9
Excision and drainage of sinus tract.....	4
Dilatation and drainage of sinus tract.....	1
Incision and dilatation of sinus tract.....	2
Irrigation of sinus tract.....	5
Exploration .....	8
Total .....	379

#### BIBLIOGRAPHY

- Bakwin, J. F.: The Prevention of Fecal Fistula. *Ann. Surg.*, 95: 704-714, 1932.
- Christopher, F.: Fecal Fistula from Sigmoid. *Surg. Clin. N. Am.*, 7: 601, 1927.
- Colp, R.: External Fistula in Acute Appendicitis. *Ann. Surg.*, 84: 837-840, 1926.
- Costantini, H. and Dubouché, H.: Fistula cutanée stercorale de l'intestine grêle. *Bull. et mem. Soc. de Chir. de Paris*, 49: 222-224, 1923.
- Criple, G. W.: Fecal Fistulae. *Cleveland, M. J.*, 15: 507-509, 1916.
- Deaver, J. B.: External Fecal Fistulae Following Appendicitis. *Ann. Surg.* 83: 782-789, 1926.
- Erdmann, J. F.: Fistula of Abdominal Wall due to Post-operative Conditions. *Proc. Int. Ass. Interstate P-G. M. Ass. N. Amer.* 6: 243-247, 1930; and *Erdmann's Clinics*, Phila.,

Saunders, 176, 1932.

Gibson, C. L. and Sherrill, W. J.: Fecal Fistula in Appendicitis. *Am. J. Surg.*, 40: 7-9, 1926.

Haggard, W. D.: Fecal Fistula Following Strangulated Hernia, With Report of 5 Cases Operated On. *Ann. Surg.* 68: 272-274, 1918.

Heineck, A. P.: Fecal Fistula Following Operation for Appendicitis. *Ill. M. J.*, 43: 245-246, 1923.

Lockhart-Mummery, F.: Method of Closing Fecal Fistulae. *Sur. Gyn. and Obs.*, 29: 312-314, 1919.

Mayo, C. H.: Fistula of the Colon. *Ann. Surg.*, 68: 211-213, 1918.

Mühsam, E.: Die im Verlaufe der Blinddarmentzündung Auftretenden Fisteln. *Mitteil.-a-d-Geb. d. Med. u. Chir.* 11: 284, 1903.

Rankin, F. W., Barger, J. A. and Buie, L. A.: The Colon, Rectum and Anus. Phila, Saunders, 1932.

## GAS-BACILLUS INFECTION OF THE EXTREMITIES—REPORT OF TWO CASES

E. W. TELFORD, B. S., M. D., F. A. C. S.

DE KALB, ILL.

The following two cases of gas-bacillus infection of the extremities are reported to emphasize the value of adequate doses of gas-bacillus antitoxin combined with radical surgical drainage of the infected tissues, in saving for useful function, extremities which might otherwise be radically amputated in attempts to avoid fatality.

While serving my internship in a large general hospital, within recent years, it was my experience to aid in the handling of several gas-bacillus infections of the extremities. No gas-bacillus antitoxin was then available for prophylaxis or treatment; radical amputations were done in all cases and it was our misfortune to have all of these cases terminate fatally.

The apparently widespread impression among the profession is that well established gas-bacillus infections of extremities require prompt, radical amputations, and that even with such procedure, the mortality is very high. A recent prominent work on surgery expresses this opinion,<sup>1</sup> and such was my belief previous to handling these two cases. However, encouraged by the report of Larson & Pulford<sup>2</sup>, on the curative value of gas-bacillus antitoxin, I treated these two cases here reported, the only gas-bacillus infection which I have encountered in private practice, with prompt radical surgical drainage, accompanied by gas-bacillus antitoxin in adequate dosage.

In these two cases the incubation periods were short and the infections apparently virulent, but recovery, and eventually good function of the injured extremities resulted in each case.

Case 1. M. C., a healthy seven-year-old white school girl, fell May 22, 1932, from rafters 10 feet high, down onto a machine-shed floor covered with finely pulverized dry manure. On admission to St. Mary's Hospital, about 30 minutes after the accident, the lower articulate surface of the right ulna was seen extruding through a wound of its own making on the volar surface of the wrist. The right radius was obviously fractured about 2 inches above the wrist with anterior bowing deformity of the lower forearm. Under ether anesthesia, debridement of skin and subcutaneous tissue around the protruding ulna was done, but tendons so exposed, prevented further debridement. The exposed ulnar tip was cleansed and replaced and the fractured radius deformity readily corrected. The wrist wound was left open, dressed moist, and moulded plaster strips were used to maintain the forearm in proper position.

The patient was given 1500 units tetanus antitoxin, combined with 1000 units B. perfringens antitoxin and 1000 units *Vibrio septique* antitoxin, and sent to her home in the country. She was not seen until 40 hours later, May 24, when she presented a fever of 102°, malaise and rapid pulse. The wrist wound exuded a profuse sanguinous gray, purulent, discharge bubbling with gas, and of foul odor. Tissue crepitation and swelling were marked in the forearm, but the former was sharply limited by elbow fascial structure and in fact, never progressed above the elbow. The patient was re-hospitalized, and radical through and through drainage of the forearm at several points was done at once. While incising skin and tunnelling through muscle bundles were being done, foul gas escaped from the tissues. Smears of the wrist wound discharge showed typical gas bacilli in abundance. Suitable culture facilities were not available.

Simultaneous with surgical treatment, the first therapeutic dose of gas-bacillus antitoxin was given intramuscularly, containing ten thousand units of B. *Perfringens* and of *Vibrio septique* antitoxin. This was repeated at intervals of 8 to 10 hours for four doses, and marked reduction of gas bubbling from the lower forearm wounds followed each dose. Within 12 hours after the fourth dose was given, nearly all gas bubbling ceased.

Until June 2, temperature ranged up to 101° each day and up to 104° one day, but no gas came from the wrist wound or other wounds after May 28, by which date swelling had much subsided. Edema of the arm to the axilla had been present, but no gas was palpated above the elbow, and the edema of the arm had almost disappeared by June 5. Drains were all removed by June 2. Hot 1 to 5,000 potassium permanganate solution fomentations were used from operation until June 5. About May 30, 6 days after operation, through and through irrigation of drained muscles was begun with Dakin's solution, and large fascial sloughs were washed out daily for several days.

Having been in the hospital 19 days, by June 12 the patient was sent home. Her temperature had been normal for three days and the forearm was draining thin pus from a drainage wound near the site of the radius fracture. Painless crepitation of the radius fragments



was evident and pressure near the fracture site caused thicker yellow pus to exude from the above-mentioned drainage wound. Strangely enough, the original wound over the lower end of the ulna was well healed, and no arthritis of the wrist seemed to exist.

Throughout the summer, repeated hyperextension of hand and fingers was necessary to combat the strong tendency to shortening of flexor tendons overlying the osteomyelitic radius in the forearm.

In October, 1932, the distal metaphysis of the ulna was resected to prevent wrist deformity, due to its growth in the presence of osteomyelitic destruction of the lower epiphysis of the radius. This operative wound healed without infection from the neighboring osteomyelitic sinus two inches away.

In November, the sequestrum in the radius was removed and rapid healing ensued. The patient was dismissed January 6, 1933, with a fair amount of wrist and hand function which has improved much since that time. No flexion deformity of the fingers is now present; due to some tendon involvement near the wrist, the index finger cannot be well flexed at the proximal interphalangeal joint. The wrist joint and forearm are strong and their function perfect, although they are much scarred and the distal end of the ulna is gone. Due to its lower growth centers being absent, the right forearm is about 1½ inches shorter than the left one.

Case 2. W. S., aged 42 years, a strong, healthy white, male field laborer, for the Midwest Canning Corporation, was admitted to the De Kalb Public Hospital June 24, 1933, 30 minutes after having been thrown about 10 feet from a wagon by a runaway team. His full body weight had driven his flexed left elbow into the ground, producing a posterior dislocation of radius and ulna on the humerus. The medial humeral epicondyle had compounded through a macerated soiled wound on the medial aspect of the forearm just below the elbow joint. Showers of fine field dust fell from the patient's clothing and skin as he was disrobed.

Debridement was done at once, but proximity of the elbow joint cavity, ulnar and median nerves and branches of the brachial artery prevented this being done as thoroughly as desired. The dislocation was readily reduced, and easy passive elbow motion resulted. X-ray showed no fracture.

The patient was given two intramuscular doses at once, each of 1500 units antitetanic serum combined with 2000 units of gas-bacillus antitoxin. On June 25 a third such prophylactic dose was given, totaling a combined gas-bacillus antitoxin dose of 6,000 units.

The flexed elbow was kept elevated and treated with hot potassium permanganate solution fomentations. Marked swelling of elbow and forearm remained after reduction, and the patient's temperature ranged from 101° to 104.8° for 36 hours, at the end of which time gas crepitation in the forearm was detected. Smears of the developing sanguinous, grayish pus showed gas bacilli and a dose of gas-bacillus antitoxin (10,000 units *B. perfringens* and 10,000 units *Vibrio septique*), was given intra-muscularly at once, and radical surgical drainage of the forearm accomplished; here as in the

first case, fascial structures about the elbow prevented gas advancement above that region.

The arm was edematous up to the axilla for several days after June 26 (date of surgical drainage), but no gas appeared above the elbow. The wound of compounding bubbled gas moderately and continuously and for several days was lined with grayish, black slough. By 9:00 p. m., June 27, the patient had received his fifth and last therapeutic dose of gas-bacillus antitoxin and on June 28 he said that after the previous midnight he ceased to feel any gas bubbling from the elbow wound.

Temperature ranged from 101° to 103° through June 30. All drains were removed July 1, and through and through irrigation of drainage tracts with 1-5,000 potassium permanganate solution was carried out daily for some days. Rapid recovery ensued.

The patient was enthusiastic about early active motion of the extremity and left the hospital July 7 with the arm in a sling. He assumed light factory work August 4, his wounds all having healed before then. He was dismissed early in October with about 25% loss of range of elbow motion, but with a strong vigorous extremity, and no loss of hand, forearm or shoulder function.

The results in these two cases and our previous experience with gas-bacillus infection seem to justify the following conclusions:

1. Adequate debridement of dirty wounds, as always, the most important prophylactic measure in preventing gas-bacillus infection, may be hampered by involvement of important structures in such wounds, so that antitoxin must be relied upon as aid in these cases.

2. So-called prophylactic doses of combined tetanus and gas-bacillus antitoxin, as marketed, are lacking in sufficient gas-bacillus antitoxin to prevent subsequent infection.

3. Radical surgical drainage of infected extremities coupled with adequate dosage of gas-bacillus antitoxin is of life saving value and may allow the saving of extremities, with later good function, which would otherwise have been amputated.

4. One or more so-called therapeutic doses of gas-bacillus antitoxin (as marketed), given soon after the infliction of a dirty wound might be really prophylactic in value in cases such as those reported here, an opinion confirmed by statistics of Coenen, quoted in Lewis' Practice of Surgery.<sup>1</sup>

131 East Lincoln Highway.

#### REFERENCES

1. Lewis: Practice of Surgery, Vol. 1, Chap. 8, P. 28.
2. J. A. M. A. 94: 612-617, 1930.

## Society Proceedings

### BUREAU COUNTY

#### RESOLUTION ON DEATH OF DR. BEN RUSSELL

WHEREAS: Dr. Ben Russell was a man of sterling character; was an honored and respected citizen and member of Society, and,

WHEREAS, he was a faithful and sincere worker in his chosen profession and a member of the Bureau County Medical and of the Illinois State Medical Society,

WHEREAS, he has been called to his long rest.

*Be It Resolved*, that we members of the Bureau County Medical Society, herein assembled, do offer to the relatives and friends, our most sincere sympathy; that we assure them that our brother physician and associate will be missed by us as the years go by, and

*Be It Further Resolved*, that the resolution be spread among the minutes of this Society and that a copy be sent to the Illinois Medical Journal.

### CHAMPAIGN COUNTY

The Champaign County Medical Society met April 12, 1934, at the Urbana Lincoln Hotel. Dr. James Carr, Professor of Medicine at Northwestern University, addressed the members on Cardiopathies. There were eighty members present and twenty guests from surrounding cities including Danville, Decatur, White Heath, Bement, Farina, and Effingham.

There were two amendments adopted to the By-laws of the Society regarding the care of indigents and contract practice.

W. F. LAMKIN, M. D., Secretary.

#### *Meeting May 10*

Dr. Joseph Miller of Chicago gave one of his celebrated "Ward Walk" talks before the Champaign Medical Society, Thursday evening, May 10. About sixty of the eighty-four members were present and were highly entertained and instructed.

Dr. Carroll Stuart, from the University of Illinois College of Medicine, gave a talk Tuesday evening, May 22, to the Medical and Dental Staff of the Burnham City Hospital, and invited friends, on "Diagnosis and Treatment of Early Malignancies." It was most instructive, bringing out and emphasizing the very latest regarding the cancer situation.

W. M. HONN, M. D.

President, Champaign County Medical Society.

### MACOUPIN COUNTY

Macoupin County Medical Society met in adjourned session January 23, 1934, Carlinville, Illinois, and was called to order by President A. H. Hunter, Staunton.

Twenty-seven members and visitors were present.

Dr. Frank J. Jirka, Director, State Department of Public Health, gave an address on "Amebiasis and Tularemia."

Dr. Robert H. Woodruff, Medical Assistant Division of Vital Statistics, gave an address on "Mortality Trends and Vital Statistics."

Dr. Howard J. Shaughnessy, Chief Division of Diag-

nostic Laboratory, gave an address on "The Doctor and the Diagnostic Laboratory."

Mr. Robert A. Wait, Decatur, gave an address on "Calcium Requirements and Calcium Feeding."

The Relief Committee gave its report.

A rising vote of thanks was given Dr. Frank J. Jirka, Dr. Robert H. Woodruff, Dr. Howard J. Shaughnessy and Mr. Robert A. Wait for their excellent addresses.

On motion the Society adjourned to meet at Carlinville in March.

#### *Meeting March 27*

Macoupin County Medical Society met in regular session at the Ariston, Carlinville, Illinois, Tuesday, March 27, 1934.

Dr. D. C. Todd of St. Louis gave an interesting address on "Medical Fraternity on Trial." This was an able lantern illustrated address dealing with the economical side of the general practice of Medicine. A large number of physicians were present and the paper was thoroughly discussed by those present.

The Relief Committee which has been working nearly a year gave a report in which they stated that a contract had been signed with the Illinois Relief Administration which permitted all physicians in Macoupin County signing this contract to participate in the benefits of it.

This was the most outstanding and one of the most interesting meetings in the history of the Society.

The following officers were elected for the coming year:

President—Dr. A. H. Hunter, Staunton.

Vice President—Dr. A. C. Goff, Staunton.

Secretary-Treasurer—Dr. T. D. Doan, Palmyra.

Delegate—Dr. T. D. Doan, Palmyra.

Alternate Delegate—Dr. A. H. Hunter, Staunton.

### OGLE COUNTY

Ogle County Medical Society met at Mount Morris, Illinois, April 26, 1934. Dr. R. J. Hyslop, Freeport, gave a very interesting talk on "Fractured Pelvis and Complications," illustrated with lantern slides.

Dr. C. H. Watkins, Mayo Clinic, followed with a masterful presentation on "Agranulocytosis and Anemias." This developed many questions and discussion.

The thanks of the Society and our friends go to these men.

Dr. A. R. BOGUE, Secretary.

### PERRY COUNTY

The Perry County Medical Society met in Du Quoin, May 3 and listened to the following program.

"Some New Developments in Endocrinology," by Dr. Daniel L. Sexton of the St. Louis University Department of Medicine.

"The Treatment of Empyema," by Dr. James L. Mudd of the Department of Surgery of Washington University.

Dr. Frank B. Hiller of Pinckneyville was elected delegate to the State meeting at Springfield.

Suitable resolutions were adopted deploring the death of Dr. Charles D. Center our State President-Elect.

H. I. STEVENS, M. D., Secretary.



## ST. CLAIR COUNTY

### THE PASSING OF CHARLES DEWEY CENTER

The St. Clair County Medical Society mourns with the Illinois State Medical Society in the loss of our President Elect, Dr. Charles D. Center and our sympathies are extended to the bereaved family.

It was not the hand of time that moved to stop the onward progress of Dr. Center but the hand of fate. He was in the midst of planning and expectations. He was planning as he had planned for years. He had much in store for organized medicine and the time was approaching when he expected the opportunity to present his plans that they might bear fruit; but the cruel side of man's invention has again stopped man's progress. We cannot recall or prevent but we can profit by the life he lived. Dr. Center leaves unwillingly an unfinished task, but peace rewards the man who does his best.

Organized medicine knew Dr. Center as a man of purpose, his great purpose was that every physician in the State of Illinois should know and receive the full benefits of organized medicine. In respect to him let us who are left do our part to bring into reality this purpose. This is our society's good-bye to Dr. Center.

A. M. ASZMANN,  
CHARLES S. SKAGG,  
T. VAN BOYD,  
O. M. MCCANN.

## VERMILION COUNTY

At the May meeting of the Vermilion County Medical Society held jointly with the Ladies Auxiliary of the Vermilion County Medical Society, Dr. John R. Neal, of Springfield, was the guest speaker of the evening. He was accompanied by Mrs. Neal.

The following resolution presented by a committee appointed by the President, Dr. W. T. Snider, was to be sent to Mrs. C. D. Center as a letter of condolence, because of the sudden death of Dr. C. D. Center, President-elect of the Illinois State Medical Society.

Dr. Neal and others present at the meeting asked that a copy of the resolution be sent for publication in the ILLINOIS MEDICAL JOURNAL.

Yours very truly,

A. R. BRANDENBERGER, M. D., Secretary.

### RESOLUTION

We the members of the Vermilion County Medical Society, recognizing our obligation to that peerless leadership which has correlated our component society with others to form the Illinois State Medical Society, and it, with other states, to form the American Medical Association, should pause and consider, the time and effort that this has taken.

Organized medicine requires and has always had able leadership, but there has never been a time when the grim reaper struck with a more deadly aim than when he selected a shining mark in the person of Dr. Charles D. Center, just on the eve of his induction into office, as President of the Illinois State Medical Society.

Dr. Center was a colorful figure. Fundamentally frank, fearless and fair, he naturally developed into a strong leader in whom his friends had implicit confidence. He went, not as one weary of life with its handicaps, but as one rejoicing in the contemplation of his own usefulness in the profession to which he did honor, and to the profession he loved to serve. He went as one ripe in experience and years, one who had filled the full measure of life, but remained keenly alive to the best interest of his profession.

By the death of Dr. C. D. Center, the State of Illinois has lost an honored citizen, the Illinois State Medical Society an able executive, the medical profession a conscientious worker, and humanity a friend.

With measured tread they carried him into the cheerless, voiceless city of the Dead. He has responded to his last call for aid, he has ministered to his last sufferer. His work is finished. The Great Physician of the Universe has called him home.

Words only confuse, but we beg of you to witness our pledge to remember him for his military bearing, admire him for his broadminded integrity, respect him for his candid and direct address, honor him for his unerring judgment, and love him for those sterling, soldierly qualities which marked him a man.

By Committee,

E. B. COOLLEY,  
L. B. RUSSELL,  
C. E. WILKINSON.

A. R. BRANDENBERGER, M. D., Secretary,  
Vermilion County Medical Society.

## WARREN COUNTY

The regular spring meeting of the Warren County Medical Society was held at Hawcock's Cafe, Monmouth, May 3, 1934. Following the dinner at 6:30, the first speaker introduced by the President, Dr. Ralph Graham, was Dr. Frank J. Jirka, Director, Illinois Department of Public Health, Springfield, who talked on the work of the Illinois Department of Health.

Dr. Jirka told of the many things the State Department is doing for the protection of the citizens of Illinois, and along the line of co-operation with medical societies and the practitioners of the State. All sub-departments and their individual functions were included in this report, and he also told of the research work the Department has undertaken more recently. A report of the State Health Department activities along the line of the Calmette method of immunizing infants against tuberculosis was given.

The second speaker was Dr. Max Thorek of Chicago, who gave a motion picture demonstration of his technique, and discussed the Electro-surgical removal of the gall bladder. This was a most interesting talk, and the pictures were unusually fine. Dr. Thorek showed many "still" pictures of gall bladder pathology, and discussed his operative procedure by which the gall bladder was removed, and closure made without drainage.

The Warren County Medical Society held its annual election, and Dr. W. A. Frymire, Monmouth, was elected president; Dr. H. S. Zimmerman, Cam-

eron, vice-president; and Dr. Chas. P. Blair, Monmouth, secretary and treasurer.

The meeting was attended by approximately 75 physicians of West-central Illinois and Eastern Iowa, physicians being present from more than fifteen counties.

CHARLES P. BLAIR, M. D., Secretary.

## Marriages

Max Thomas Bolotin, Chicago, to Miss Mary R. Mann, of Shanghai, China, February 25.

Clarence G. Pool, Compton, Ill., to Miss Helen Schnuckel at New Orleans, March 27.

Henry H. Rubin to Miss Dorothy E. Liebling, both of Chicago, Dec. 31, 1933.

Florance L. Sullivan, Freeport, Ill., to Miss Magdalen Heintz of Chicago, April 5.

## Personals

Dr. O. B. Nugent was invited to give a paper on "Ocular Surgery" before the Southwest Wisconsin Medical Society May 25. He addressed the Northwest Dental Society and gave his illustrated lecture on "Primitive India." He also gave an illustrated lecture on the "Holyland" to the Normal Park Lodge May 8.

The Fulton County Medical Society was addressed in Canton, April 18, by Dr. James P. Simonds, Chicago, on "Nephritis."

Dr. John T. Murphy, Toledo, addressed the Chicago Roentgen Society, May 10, on "Bone Tumors."

Dr. Carl Beck was honored with a reception, March 25, in observance of his seventieth birthday.

Dr. Meyer Solomon, Chicago, discussed nervous breakdowns before the Will-Grundy County Medical Society, April 11.

At a meeting of the Iroquois County Medical Society, April 12, Dr. Philip Rosenblum, Chicago, spoke on "Convulsions in Children."

At a meeting of the Kane County Medical Society in Aurora, April 11, Dr. Irving F. Stein, Chicago, discussed "The Use of Obstetric Forceps."

The Chicago Tuberculosis Society was addressed, May 10, among others, by Dr. John B. O'Donoghue on "Surgery of Pulmonary Tuberculosis."

Dr. Herbert N. Rafferty, Robinson, among others, addressed the Crawford County Medical

Society, April 18, on "Multiple Fractures and Traumatic Epilepsy."

Dr. David C. Todd, St. Louis, recently addressed the Macoupin County Medical Society in Carlinville on the economic side of the general practice of medicine.

Dr. Walter W. Hamburger has been appointed clinical professor of medicine in the Division of Biological Sciences, University of Chicago.

At a meeting of the Franklin County Medical Society in Benton, April 26, speakers included Dr. Max S. Wien, Chicago, on "Relation of Dermatology to General Medicine."

Drs. George T. Palmer, Springfield, and George H. Vernon, Jr., discussed "Blood Sedimentation in General Practice" before the Christian County Medical Society in Taylorville, April 18.

At a meeting of the Jefferson-Hamilton County Medical Society in Vernon, April 12, Dr. James A. Warner, St. Louis, spoke on treatment of bacterial diseases.

Dr. George H. Weaver was elected president of the Society of Medical History of Chicago, May 2; Dr. David J. Davis, vice-president, and Dr. Irving S. Cutter, secretary.

Dr. Percival Bailey discussed "Peculiarities of Tumors of the Nervous System in Infants and in Childhood" before the Chicago Pediatric Society, May 22.

Speakers before the Chicago Pathological Society, May 14 included Dr. Emil T. Hoverson, Kankakee, Ill., on "Sedimentation Rate of Erythrocytes: An Explanation for Normal Daily Variations."

Speakers before the Bureau County Medical Society in Princeton, April 10, were Drs. Philip H. Kreuscher and Ernest E. Irons, both of Chicago, on backache and causes and treatment of chronic arthritis, respectively.

Dr. Clarence F. G. Brown, of Chicago, talked before the Shelby County Medical Society, Shelbyville, on the topics, "Treatment of Pneumonia" and "Some Clinical Aspects of Peptic Ulcer," Friday, April 27.

Dr. Maximilian Kern spoke at the Irving Park School on Wednesday, May 16, in observance of Health Day of Youth Week.

Dr. Richard Jaffé and Max Cutler have been invited to present a program on Cancer before the Will-Grundy County Medical Society at Morris on May 2nd.



Dr. Aaron Arkin will be the speaker at the Annual Luncheon of the Public Health Chairmen of the Illinois Federation of Women's Clubs at the Hotel Sherman on May 16.

Dr. Charles J. Drueck gave an illustrated lecture on "The Colon as a Focus of Systemic Infection" May 9 at the meeting of Will-Grundy County Medical Society.

The Medical Research Club of the University of Illinois held its meeting on May 9. Drs. T. Cornbleet, I. Schour, M. C. Smith were the speakers.

Drs. George deTarnowsky and Wilber E. Post gave the scientific program for the Henry County Medical Society at Kewanee on May 3 on "Differential Diagnosis and Treatment of Acute Abdominal Complaints" and "Nephritis."

Dr. Ralph C. Hamill gave an address on "The Handicapped Child and What Club Women Can Do About the Problem," at the annual luncheon of the Public Welfare Committee of the Illinois Federation of Women's Clubs at the Hotel Sherman on May 16.

Dr. Sidney A. Portis addressed the Rock Island County Medical Society, Rock Island, Illinois, on Tuesday, May 8, on the subject "The Medical Aspects of Gall Bladder Disease," with special reference to the pre- and post-operative management.

Dr. Max Thorek was invited to address the State Medical Society of Oklahoma at Tulsa, Oklahoma, May 22, on "A New Method of Obliterating the Gall Bladder by Electrosurgical Means."

---

### News Notes

---

—The May dinner meeting held by the Paris Hospital for physicians of surrounding counties, was held at Oak Lodge, near Greenup, on May 10. It was attended by doctors and their wives, numbering about 175 people. The guest speakers were Dr. George Thomas Palmer and Dr. George H. Vernon, of Springfield, who discussed "Blood Sedimentation in General Practice."

—Speakers before the Chicago Orthopedic Club, May 11, were Drs. Marcus H. Hobart on "Myositis Ossificans"; Ferdinand C. Seidler, "Fracture Dislocation of the Shoulder," and Henry Bascom Thomas, "Undifferentiated Osteogenic Sarcoma."

—A symposium on cancer was presented before the LaSalle County Medical Society in La Salle, April 25, by members of the staff of Washington University School of Medicine, St. Louis: Drs. Isaac Y. Olch, James Barrett Brown and Nathan A. Womack.

—The Chicago Academy of Criminology was addressed, May 10, by Benjamin C. Bachrach, public defender of Cook County, on "Criminal Code and Indeterminate Sentence," and Prof. Harrison Dobbs of the University of Chicago, "The State's Responsibility in the Correctional Education of Children."

—Quo warranto proceedings were instituted, May 12, in the Superior Court, Cook County, by the attorney general of Illinois, questioning the right of the United Medical Service, Inc., 23 East Jackson Boulevard, to engage in the corporate practice of medicine under the provisions of the medical practice act of Illinois. The United Medical Service, Inc., was organized as an Illinois corporation and chartered, Dec. 15, 1930, with an authorized capital stock of \$40,000. Dr. Joseph G. Berkowitz, formerly director of the Public Health Institute, is president of United Medical Service, Inc.

—A symposium on peptic ulcer was presented before the Sangamon County Medical Society, April 5, by Drs. Charles L. Patton, Frank N. Evans, Richard F. Herndon, Thomas D. Masters, Lawrence M. Hilt and David J. Lewis, Springfield.

—The Chicago Gynecological Society was addressed, May 18, by Drs. James E. Fitzgerald on "Management of Pregnancy in Women with Heart Disease," and Lester E. Frankenthal, Jr., "The Cardiac Patient in Pregnancy, with a Report of a Case of Coronary Occlusion During Pregnancy."

—The Peoria City Medical Society was addressed, May 1, by Dr. Chauncey C. Maher, Chicago, on "Treatment of Cardiac Edema." The society was addressed, April 17, by members of the state health department: Dr. Frank J. Jirka, amebiasis; Howard J. Shaughnessy, Ph.D., the doctor and the diagnostic laboratory, and Dr. Robert H. Woodruff, the doctor and vital statistics.

—The Adams County Medical Society held a banquet in honor of Dr. William W. Williams, Quincy, March 12, in recognition of his com-

pletion of fifty years in the practice of medicine. Dr. Nathaniel G. Alcock, Iowa City, presented a floral tribute on behalf of the University of Iowa College of Medicine, where Dr. Williams graduated in 1884, and Dr. Philip H. Kreuscher, Chicago, president, Illinois State Medical Society, presented a gold watch on behalf of the Adams County Medical Society. Dr. Williams has practiced in Quincy for thirty-nine years. On the scientific program, Dr. Alcock discussed resection of the prostate, and Dr. Kreuscher, backache.

—Election of officers was held at the annual meeting of the Chicago Tuberculosis Society on May 10. The following were elected: Dr. Ellis B. Freilich, president; Dr. Ralph B. Bettman, vice-president; Dr. Richard Davison, secretary.

—The cornerstone of the new \$1,000,000 Chicago Policlinic Hospital was laid, May 11. The institution, formerly known as Henrotin Hospital, will be six stories high, with a capacity of 100 beds. The old hospital was erected in 1907.

—Chicago Society of Internal Medicine presented the following program May 28: Relief of Thyrotoxicosis by Thyroidectomy, Dr. W. C. Buchbinder; Rheumatic Heart Disease in Children, Drs. Stanley Gibson and Edward Denenholz; Hypertension and Nephritis, Dr. Louis Leiter; The Neutropenic State, Dr. Richard H. Jaffé, and Amebiasis, Dr. James A. Conner.

—The annual reunion of Rush Medical College will be held in Chicago, June 8 and 9, in order to permit visiting alumni to attend this reunion and to go to the annual meeting of the American Medical Association in Cleveland the week following. Special clinics will be held for the visiting alumni on June 8 and 9. The annual banquet of the Rush Faculty and Alumni will be held at 6:30 Saturday evening, June 9, at the Palmer House. Special class reunions of the tenth, twentieth, thirtieth, fortieth and fiftieth year classes will be held Friday evening, June 8, at the Palmer House.

On April 16, 1934, the Staff of St. Mary Hospital, Kankakee, Ill., assisted by the Kankakee County Medical Society and the District Dental Society, held their first Tumor Clinic. The Clinic was conducted at the hospital by Dr. Joseph Colt Bloodgood, Baltimore, Md., for 125 visiting physicians and many nurses. A banquet was given at 6:30 p. m. at the Kankakee Hotel in honor of Dr. Bloodgood and Dr. Max

Cutler of Chicago. At 8:00 p. m. at the High School the general public were invited to hear Dr. Bloodgood give an illustrated lecture on Cancer and Dr. Max Cutler a talk on the use of radium and x-ray in its treatment. Over 1500 people were present. The Doctors voted the day a huge success and consider themselves very fortunate in securing such able and distinguished talent.

## Deaths

ADELBERT MORTON AUSTIN, Quincy, Ill.; Washington University School of Medicine, St. Louis, 1904; a Fellow, A. M. A.; past president of the Adams County Medical Society; on the staff of the Blessing Hospital; aged 53; died, March 20, at his home in Mendon, of heart block.

STANLEY J. BECKETT, Chicago; Chicago Medical School, 1928; aged 33; died, May 9, in the Danish-American Hospital, of injuries received when the automobile in which he was driving was struck by a street car.

CHARLES OREN BURKE, Atlanta, Ill.; Jefferson Medical College of Philadelphia, 1887; member of the Illinois State Medical Society; served during the World War; formerly on the staff of St. Joseph's Hospital, Bloomington; aged 69; died, May 3, of chronic myocarditis, hypertension and arteriosclerosis.

ROBERT C. HITCHINGS, Donovan, Ill.; Kentucky School of Medicine, Louisville, 1889; a Fellow, A. M. A.; aged 70; died, March 26, in St. Mary's Hospital, Kankakee, of uremia.

JAMES WILLIAM KELLY, Chicago; Hahnemann Medical College and Hospital, Chicago, 1899; a Fellow, A. M. A.; Rush Medical College, Chicago, 1900; on the staff of the Roseland Community Hospital; aged 59; died, April 4, of heart disease.

JOHN EDWARD KITCHEN, Bone Gap, Ill.; Eclectic Medical Institute, Cincinnati, 1877; aged 84; died, February 14, of heart disease.

BIRDIE EUGENIA McLAIN SPRINGS HIGGINBOTHAM, Chicago; Bennett Medical College, Chicago, 1912; aged 43; died, January 6, of toxemia, due to extensive burns.

EDWIN S. NAFFZ, Chicago; Rush Medical College, Chicago, 1893; also a pharmacist; aged 66; died, April 15, of organic heart disease.

DAVID ROY NELSON, Moline, Ill.; Northwestern University Medical School, Chicago, 1908; past president of the Rock Island County Medical Society; formerly coroner of Johnson County, Wyo.; aged 55; died suddenly, April 2, of heart disease.

EDWIN A. TAYLOR, Chicago; Hering Medical College, Chicago, 1895; aged 70; died, March 25, of a self-inflicted gunshot wound.

WILLIAM VON BOENICK, Chicago; National Medical University, Chicago, 1909; on the staff of the Martha Washington Hospital; aged 60; died, May 9, of coronary thrombosis.



# Treatment of Secondary Anemias

is successful by combining the hematopoietic effect of liver extract with the hemoglobin forming property of iron.

## CHAPPEL'S LIVER-IRON COMPOUND LIQUID

(FORMERLY HEMO-S)

combines *hemoglobin* and easily assimilable *iron* with unfractionated *liver extract*. Sold, now at reduced price, in bottles of eight ounces.

## LIVER-IRON COMPOUND CAPSULES

Each capsule contains dry liver extract corresponding to 12 gms. of liver and 0.44 gms. of ferric ammonium citrate. Sold in packages of one hundred capsules.

Specify "CHAPPEL"

Professional correspondence invited.

# LABORATORIES CHAPPEL BROS. INC.

Rockford, Illinois

# RADIUM AND RADON FOR PHYSICIANS

The Radium Service Corporation rents radium and sells radon to Physicians. It does not accept patients for treatment.

The medical policy of the Corporation is in charge of the undersigned who is a Radiologist approved by the American Medical Association and who limits his private practice to radium therapy.

Information on request.

A. James Larkin, M.D.  
Medical Director

## Radium Service Corporation

180 N. Michigan Ave., Chicago  
Telephones: State 8676—State 1883

Trademark  
Registered

# STORM

Trademark  
Registered

## Binder and Abdominal Supporter



Gives perfect uplift. Is worn with comfort and satisfaction. Made of Cotton, Linen or Silk, Washable as underwear. Three distinct types, many variations of each.

### The Picture Shows "Type N"

Storm belts adaptable to all conditions, Ptosis, Hernia, Pregnancy, Obesity, Sacro-Iliac Relaxations, High and Low Operations, etc.

Ask for Literature

KATHERINE L. STORM, M.D.

Originator, Owner and Maker

1701 Diamond St.

Philadelphia

# UROLITHIA

NON-ALCOHOLIC  
NON-TOXIC

## LARGER DOSAGE

of METHENAMINE  
(Hexamethylamine)  
Without Irritation

You can administer 20  
to 40 grains four or  
five times per day.



UROLITHIA is a scientific  
compounded formula of Me-  
thenamine in combination with  
Lithium and Sodium Benzoate  
in a Standardized fluid of  
couch grass (*Triticum*) and  
corn silk (*Zea*).

**COBBE**

Pharmaceutical Company  
221 N. Lincoln St. Chicago, Ill.

Urolithia serves as an agent for  
liberating formaldehyde and  
avoids the highly irritating qual-  
ities of free formaldehyde.

COBBE PHARMACEUTICAL CO.,  
221 N. LINCOLN ST., CHICAGO, ILL.

Send free Urolithia sample and  
literature.

DR. ....

.....

.....

.....

IM6-34

## PROFESSIONAL PROTECTION

SINCE 1899  
SPECIALIZED  
SERVICE

THERE IS NO SUBSTITUTE  
FOR EXPERIENCE

THE

**MEDICAL PROTECTIVE COMPANY**

OF FORT WAYNE, INDIANA

**WHEATON, ILLINOIS**



# Cut Out This Page and Post Conspicuously

## BUYERS INDEX

### ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D., 1701 Diamond St., Philadelphia, Pa. .... 15

### FOODS

Borden Co., New York City..... 12  
R. B. Davis Co., Hoboken, N. J.....  
Lister Bros., 41 E. 42nd St., New York City..... 18  
Mead Johnson & Co., Evansville, Ind..... 9  
Mellin's Food Co., Boston, Mass.....  
The Wander Company, 180 N. Michigan Ave., Chicago.... 27

### FINANCIAL AND INSURANCE

Medical Protective Co., Fort Wayne, Ind..... 16

### HOSPITALS

Stokes Hospital, Louisville, Ky..... 18

### MEDICAL SCHOOLS

Chicago Eye, Ear, Nose and Throat Hospital, 231 W. Washington St., Chicago..... 20  
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago ..... 18

### PHARMACEUTICALS

Abbott Laboratories, North Chicago, Ill.....  
Armour & Co., Chicago..... 7  
Carnrick, G. W., Co., 411 Canal St., New York City..... 3  
Chappell Bros. Inc., Rockford..... 15  
Ciba Company, Cedar & Washington Sts., New York City 26  
Cobbe Pharmaceutical Co., 211 N. Lincoln St., Chicago.... 16  
Davies, Rose & Co., Boston..... 26  
Denver Chemical Co..... 24  
Emerson Drug Co., Baltimore..... 13  
Harrower Laboratory, 160 N. La Salle St., Chicago..... 19

Hynson, Westcott & Dunning, Charles and Chase Sts., Baltimore ..... 8  
Lilly, Eli & Co., Indianapolis, Ind..... 14  
Merck and Co., Rahway, N. J..... 10  
Metz Laboratories, Inc., New York.....  
Parke, Davis & Co., Detroit, Mich..... 5  
Paul Plessner Co., Detroit, Mich..... 18  
Radium Service Corp., 180 N. Michigan Ave..... 15  
Reed & Carnrick, Jersey City, N. J.....  
Schering and Glatz, Inc., New York City.....  
G. D. Searle & Co., 4737 Ravenswood Ave., Chicago..... 11  
Sharp & Dohme, 41 John St., New York City..... 3  
E. R. Squibb & Sons, New York..... 2  
Frederick Stearns & Co., Detroit..... 23  
Wm. R. Warner & Co., 113 W. 18th St., New York City... 6  
Winthrop Chemical Co., 117 Judson St., New York City...  
John Wyeth & Bro., Inc., Philadelphia..... 4

### SANATORIA AND SANITARIA

Edward Sanatorium, Naperville, Ill..... 20  
Kenilworth Sanitarium, Kenilworth, Ill..... 25  
Michell Farm Sanitarium, Peoria, Ill..... 28  
Milwaukee Sanitarium, Wauwatosa, Wis.....Front Cover  
Norbury Sanitarium, Jacksonville, Ill..... 25  
North Shore Health Resort, Winnetka, Ill..... 28  
Oconomowoc Health Resort, Oconomowoc, Wis..... 28  
Waukesha Springs Sanitarium, Waukesha, Wis..... 25  
Wilgus Sanitarium, Rockford, Ill..... 25

### SCHOOLS

Bancroft School, Haddonfield, N. J..... 18

### SURGICAL SUPPLIES

Johnson & Johnson, New Brunswick, N. J..... 8



As a Biliary Disinfectant...

## TAUROCOL (TOROCOL) TABLETS

is highly endorsed by the medical profession. A combination of bile salts, extracts of cascara sagrada, phenolphthalein and aromatics. TAUROCOL is a cholagogue widely prescribed by doctors for more than a quarter of a century.

If you are now prescribing TAUROCOL you know its efficacy in increasing bile flow. If you are not prescribing TAUROCOL will you please make a clinical test of TAUROCOL?

Samples and full information on request.

**THE PAUL PLESSNER CO.**  
DETROIT - - - MICH.



VERA PERLES  
of Sandalwood  
Compound . . .  
another Plessner  
product.

IM6-34

### DRUG ADDICTION (30 Years' Experience.)

THE STOKES HOSPITAL, 923 Cherokee Road, Louisville, Kentucky. Phone East 1488. Treatment one of Gradual Reduction. Diarrhea, muscular spasm and withdrawal pains absent. Non-injurious, non dangerous, absolutely safe. Patient's identity protected. Privacy assured. Rates and folder on request.

### THESE JOBS COME HIGH

Opportunities for governmental employment in several Federal departments are now open. All salaries

### ATTENTION!

Physicians and Surgeons!

Small private hospital in a good city of 45,000 population, established 30 years, with residence attached completely furnished and hospital equipped, doing a good business. On account of retiring from practice, will sacrifice for quick sale. Wonderful opportunity and money maker. All correspondence treated confidential. Address, care Illinois Medical Journal, 6221 Kenmore Ave., Chicago, Ill.

are subject to 150 per cent. economy act reductions.  
—Indianapolis paper.

## Cook County Graduate School of Medicine

(In affiliation with COOK COUNTY HOSPITAL)

### ANNOUNCES CONTINUOUS COURSES

**MEDICINE**—General and Intensive Courses, all branches.

**PEDIATRICS**—Informal Course—Intensive Course.

**EAR, NOSE & THROAT**—Informal Course—Special Courses—Intensive Course.

**SURGERY**—General Course One, Two, Three and Six Months; Surgical Technique Two Weeks Intensive Course—Special Courses.

**GYNECOLOGY**—Three Months Course—Two Weeks Course—Special Courses.

**OBSTETRICS**—Informal Course—Two Weeks Intensive Course.

**FRACTURES & TRAUMATIC SURGERY**—Informal Course—(Intensive Course starting June 18th).

**UROLOGY**—General Course Two Months, Intensive Course Two Weeks—Special Course.

**CYSTOSCOPY**—Intensive Course. Attendance Limited. General, Intensive and Special Courses in Tuberculosis, Ophthalmology, Roentgenology, Pathology, Neurology, Proctology, Electrocardiography, Topographical and Surgical Anatomy, Physical Therapy, Gastroenterology, Allergy.

TEACHING FACULTY, Attending Staff of  
COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street  
Chicago, Illinois

## LISTERS FLOUR

CASEIN PALMUT DIETETIC

## No Starch

prescribed in

→ Diabetes ←

Strictly starch-free, palatable muffins, bread, cakes, pastry, etc., are easily made in any home from Listers Flour. Recipes are easy to follow and Listers Flour is self-rising. One month's supply \$4.85

Ask for nearest Depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK, N.Y.

## BACKWARD AND PROBLEM CHILDREN

require intensive scientific training in a  
suitable environment

## The Bancroft School

One of the oldest private schools of its kind in the United States. An incorporated educational foundation, operated not for profit, organized to give the fullest possible co-operation to physicians.

CATALOG ON REQUEST

Address Box 316

Haddonfield, New Jersey



# TRUE ECONOMY

is shown when your results come quickly, no matter what the remedy may cost; but, when the cost is low, so much the better.

## M E N O C R I N

is a means of reaching deep into the control of the menstrual regulators—the pituitary and the thyroid, as well as the ovaries. When ovarian therapy is used alone, time is consumed, money is wasted, and discomfort is prolonged, because the real difficulty is rarely in the pelvis.

Menocrin is available in sanitablets, capsules, and ampules. Push the dosage before the period, omit during and immediately after, thus: 1, q.i.d. for ten days; double this dose for ten days before flow; omit for ten days; repeat.

Prescribe Menocrin in such conditions as

## A M E N O R R H E A

Menopausal Disorders - Dysmenorrhea - Menstrual Neurasthenia

---

### THE HARROWER LABORATORY, INC.

GLENDAL, CALIF.	NEW YORK, N. Y.	CHICAGO, ILL.	DALLAS, TEX.	PORTLAND, ORE.
920 E. Broadway	9 Park Place	160 N. La Salle St.	833 Allen Bldg.	316 Pittock Block

# The Edward Sanatorium

Established 1907 by Dr. Theodore B. Sachs

Jerome R. Head, M. D., Medical Director ; Alberto L. de Guevara, M. D., Asso. Medical Director

Naperville, Illinois

An institution affiliated with the Chicago Tuberculosis Institute for the treatment, by modern methods, of selected cases of Pulmonary Tuberculosis. Attractive location and surroundings.

Buildings and equipment modern and adequate for all emergencies.

Well trained staff of physicians and nurses.

Physicians are invited to visit the Sanatorium at any time. They are assured of every professional courtesy and consideration.

For detailed information, rates and rules for admission apply to—

## The Chicago Tuberculosis Institute

Room 504, 360 North Michigan Avenue

Phone Central 8316

Chicago

### POSTGRADUATE COURSE

For Graduates in Medicine  
Eye, Ear, Nose and Throat  
A house doctor is appointed  
July 1st and January 1st

150 clinical patients daily provide material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write  
**CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL**  
231 West Washington Street, Chicago, Illinois

### LABORATORY COURSE

For Nurses and Graduates of High School  
Classes Limited to Six  
X-ray, Basal Metabolism, Electrocardiography  
and Physical Therapy

### Book Reviews

**CONTAGIOUS DISEASES.** What they are and how to deal with them. By W. W. Bauer, M. D. New York. Alfred A. Knopf. 1934, Price, \$2.00.

This book is clearly and simply written. It is intended, not as a substitute for a doctor, but as a supplement to him—as a guide for intelligent mothers who wish to do all they can in safeguarding the health of their families. It contains not an ounce, but many pounds of prevention.

**UNTRODDEN FIELDS OF ANTHROPOLOGY**, by Dr. Jacobus X. 786 pages. New York: American Anthropological Society, 70 Fifth Ave. Price \$5.00.

This work is the record of thirty years of observation among the primitive races of the world. Chiefly interested in sexual customs, Dr. X. was able to record the most unusual rites and scenes of erotic practices ever encountered by a white man.

If this were all, the Untrodden Fields of Anthropology would still be one of the most absorbing works on sexual customs ever recorded. But Dr. X. has gone further and has added to his store of observations numerous comparisons with other travelers, thus set-

(Continued from page 8)

Macoupin County .....	566
Ogle County .....	566
Perry County .....	566
St. Clair County .....	567
Vermilion County .....	567
Warren County .....	567
Marriages .....	568
Personals .....	568
News Notes .....	569
Deaths .....	570

Colon Therapy—Referred patients cared for by registered nurses under medical supervision. The new "Automatic" technique assures painless, thorough and result-getting irrigations. Physicians welcome. Stool analysis by mail a specialty. Colon Therapy Institute, 59 E. Madison St., Chicago, Ill.

ting down in these two large volumes the most esoteric information on the most esoteric practices which exist on the face of the earth. It would be impossible to compare any other similar work, with the exception of the compilation in German by Drs. Ploss and Bartels, to this colossal undertaking.

The present work is a reissue of the two-volume edition, now a rarity, published by the Society some years ago. The two volumes have been bound as one, and the work is now generally available to the members of the learned professions and interested adults.



## ILLINOIS PERIODIC PHYSICAL EXAMINATION RECORD\*

Case No. .... usual.....  
 Name ..... Age.....Height ..... Weight.....present.....  
 normal.....  
 Temp. (3 min.).....Pulse Rate { Seated (before exercise) .....  
 { Standing (before exercise) .....  
 { 60 sec. after exercise (sufficient to increase pulse to 110).....  
 Bl. Pres.: Sitting { Sys..... Lying { Sys.....  
 { Dias. .... { Dias.....  
 Hearing { R..... Vision { R.....  
 { L..... { L.....  
 Urine: Color..... Reaction.....Sp. Gr. .... Alb..... Sugar.....  
 Microscopic.....

## 1. (Standing)

- (1) Posture: erect.....stooped.....Lateral curvature .....
- (2) Superficial glands .....cervical.....axillary .....inguinal..... epitrochlear.....
- (3) Abdomen: flat .....Pendulus .....
- (4) Arms .....defects .....
- (5) Legs .....big veins..... scars.....
- (6) Feet: flat .....painful .....deformed.....
- (7) Skin .....Hands .....
- (8) Nutrition .....Hernial rings .....
- (9) Chest: expir. ....inspir.....Romberg .....

## 2. (Sitting)

- (1) Scalp .....Patellar reflexes .....
- (2) Eye reflexes .....to light .....to distance .....
- (3) Nose: conformation.....air passages free .....obstructed .....discharge.....
- (4) Teeth: caries .....devitalized.....crowned .....
- (5) Gums: healthy.....retracted.....inflamed .....
- (6) Tongue: clean.....coated.....moist .....dry .....
- (7) Pharynx: ulcers .....scars .....tonsils .....
- (8) Ears: conformation .....discharge .....
- (9) Heart: locate apex (measure from mid-line—state interspaces).....character of sounds.....
- (10) Lungs: abnormal findings.....

## 3. (Lying)

- (1) Abdomen: palpation .....tender..... tumors .....
- (2) Liver: percussion .....tender..... palpable .....
- (3) Spleen: percussion .....tender..... palpable .....
- (4) Kidneys: palpable .....tender .....
- (5) Rectum: inspection .....digital findings .....
- (6) Male Genitalia .....
- (7) Female Genitalia and pelvis.....

## 4. Summary: defects of function and structure and errors of habit.....

## 5. Advice given to the patient.....

\*Prepared by the Illinois State Medical Society.

Copies of this physical examination record may be secured from Doctor Harold M. Camp at Monmouth, Illinois, or the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

## HISTORY

(This side to be filled in by the person to be examined)

1. Name ..... Country of birth.....Date of birth.....
2. Address .....Race .....
3. Single, married, widowed, divorced.....
4. Occupation .....
5. How often have you changed your work?.....Why? .....
6. Is your work dangerous or unhealthy?.....
7. Is it indoors or out?.....
8. Is it light where you work?.....Dark?.....Dusty? .....Smelly?.....Noisy?.....Crowded?.....
9. At work are you usually seated, standing, or walking? .....
10. How many hours a day do you work?.....How many days a week?.....
11. Have you a room and bed to yourself?.....With window open?.....
12. What are your hours of sleep?.....Is your sleep restful?.....By what is it disturbed? .....
13. Where do you eat your meals?.....
14. How much time do you take for each meal?.....
15. Of what foods are you especially fond?.....
16. How much do you drink daily of:
 

Water .....	Tea .....	Soft drinks .....
Milk .....	Coffee.....	Alcoholic drinks .....
17. Do you eat candy?.....
18. Do you have a bowel movement daily without the use of drugs?.....What laxative do you use?.....How often? .....Do you have pain or bleeding with bowel movement?.....How often? .....
19. Have your menstrual periods been regular?.....
20. Have they interfered with your usual occupations? .....
21. Have pregnancies and confinements been free from accidents? .....
22. How often do you bathe?.....
23. What regular exercises do you take in addition to your work?.....
24. Do you share in church, social, political, club, or trade associations?.....
25. What are your pleasures or recreations?.....
26. Have you had any of the following diseases and at what ages?
 

Tuberculosis .....	Scarlet fever .....	Tonsillitis .....
Malaria .....	Diphtheria.....	Frequent colds.....
Rheumatism .....	Typhoid fever .....	Syphilis or gonorrhea.....
27. Do you have dyspepsia?.....
28. Do you have headaches?.....
29. Are you short of breath on going up stairs?.....
30. Do you catch cold easily and often?.....
31. Are you subject to sore throats?.....
32. Have you been vaccinated against small pox, typhoid fever, diphtheria?.....When? .....
33. Have you had any accidents, broken bones or surgical operations? .....
34. How often do you consult you dentist?.....
35. Are you as well at present as formerly?.....If not, why?.....
36. Do you remember any important diseases of your parents or family which may have affected your own health? .....

Remarks: .....



# Announcement of Acceptance

by the Council on Pharmacy and Chemistry  
of The American Medical Association of

## NEO-SYNEPHRIN HYDROCHLORIDE

(Levo-meta-methylaminoethanolphenol hydrochloride)

*a NEW, improved vaso-constrictor*

### ADVANTAGES OF NEO-SYNEPHRIN HYDROCHLORIDE OVER SYNEPHRIN TARTRATE

- [1] Fifteen Times Stronger
- [2] More Active When Taken Orally
- [3] Still Lower Toxicity in Therapeutic Doses

### ADVANTAGES OF NEO-SYNEPHRIN HYDROCHLORIDE OVER EPINEPHRINE OR EPHEDRINE

- [1] In therapeutic doses, less toxic than epinephrine
- [2] Absence of sting
- [3] Action more sustained
- [4] Active each time it is given, even after frequent dosage

### CLINICAL FIELD

To relieve congestion in

- [1] The Common Cold
- [2] Acute and Chronic Sinus Trouble
- [3] Eustachian Catarrh

### HOW SUPPLIED

Neo-Synephrin Hydrochloride Solution,  $\frac{1}{4}\%$  — 1 oz.

Neo-Synephrin Hydrochloride Solution, 1% — 1 oz.



FREDERICK STEARNS & COMPANY  
DETROIT, MICHIGAN, U. S. A.





**ANTIPHLOGISTINE** is of material value in the treatment of subacute and chronic inflammations of the pelvic organs.

Impregnated with glycerine and containing boric and salicylic acids, compounds of iodine, oils of gaultheria, eucalyptus and peppermint, blended in judicious proportions in the finest anhydrous silicate of aluminum, this Dressing, when inserted as a tampon, will yield moist heat and plastic support for many hours.

*Sample  
and  
literature  
on request*

*Antiphlogistine is also a valuable adjunct to other forms of therapy and an aid to diathermy, the action of which it helps to reinforce and sustain.*

THE DENVER CHEMICAL MFG. COMPANY  
163 Varick Street, New York, N. Y.

**METRITIS**

**ADNEXAL INFLAMMATIONS**

**PARAMETRITIS**



## Kenilworth Sanitarium

KENILWORTH, ILLINOIS  
Northern Suburb of Chicago

*Founded by Sanger Brown, M. D. 1905*

Built and equipped for treatment of mental and nervous diseases. Over ten acres of well parked and landscaped grounds. Supervised occupational and recreational activities.

JAMES M. ROBBINS, M. D., Medical Director  
JOHN G. HENSON, M.D.      CHRISTY BROWN  
Assistant Physician      Business Manager  
PETER BASOE, M.D., Consulting Physician

All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois.



## THE WILGUS SANITARIUM AT ROCKFORD

**For Mild Mental and Nervous Diseases**

Personal care and attention given to a limited number of mild mental and nervous cases, drug and alcohol addicts. Long Distance, Rockford, Parkside 183-W, and reverse the charges.

*Licensed by the Illinois State Department of Public Welfare.*

*Member of the Central Neuropsychiatric Hospital Association.*

**Rockford, Illinois**

Chicago Office: 30 North Michigan Ave., Suite 1322  
Telephone State 7654



BUILDING ABSOLUTELY FIRE-PROOF

## Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M. D., Medical Director  
FLOYD W. APLIN, M. D.

**Waukesha, Wisconsin**

## The NORBURY SANATORIUM

JACKSONVILLE, ILLINOIS

INCORPORATED and LICENSED

*For the Treatment of Nervous and Mental Disorders*

DR. FRANK P. NORBURY, Medical Director  
DR. ALBERT H. DOLLEA, Superintendent  
DR. FRANK GARM NORBURY } Associate Physicians  
DR. SAMUEL N. CLARK

Address  
Communications

**THE NORBURY SANATORIUM, Jacksonville, Illinois**

## 2 WAYS TO PREVENT PAIN FROM SUNBURN



THE attractive creature in the foreground wisely brought a tube of Nupercaine Ointment to the beach as she remembered the doctor's advice when suffering from her last sunburn. Her companion, unfortunately, had no such counsel and dares not expose her skin to the burning sun rays.

The anesthetic action of Nupercaine gives almost immediate and complete relief from these painful burns; the additional ingredients, with their healing and soothing properties, also help Nature to prevent unnecessary suffering.

Because of their success in the treatment of other painful or itching skin conditions such as *burns, hemorrhoids, ulcers, superficial carcinomata, pruritus ani or vulvae*, many more physicians are recommending Nupercaine Ointment for sunburn.

*Literature and samples on request*

**CIBA COMPANY, INC.**  
NEW YORK, N. Y.



*The*  
cardiologist  
is assured  
of dependability  
in  
digitalis  
administration

EACH PILL CONTAINS  
0.1 GRAM (1½ GRAINS)  
OF DIGITALIS.

PHYSIOLOGICALLY  
STANDARDIZED

*Send for sample and literature*

**DAVIES, ROSE & CO., Ltd.**  
Pharmaceutical Manufacturers  
BOSTON, MASS.



# a Soothing Night Cap

## for the "INSOMNIA-MINDED"

The nervous, "insomnia-minded" patient can often be lulled into sound, healthful, restful slumber without resort to habit-forming or hypnotic drugs.

The same palatable food concentrate—Ovaltine—which is so widely recommended by physicians for invalids, convalescents, for growing children, nursing and expectant mothers, also offers an invaluable, soothing night-cap.

A warm drink of delicious Ovaltine is easily digested, and taken just before retiring it helps to induce sleep in a perfectly natural, healthful way.

Ovaltine adds important food elements to plain milk, and by reducing the milk curd to finely comminuted particles it enhances considerably its digestibility.

### Fill in the Coupon for Professional Sample

*Why not let us send you a trial supply of Ovaltine? If you are a physician, dentist or nurse, you are entitled to a regular package. Send coupon together with your card, letterhead or other indication of your professional standing.*

# OVALTINE

*The Swiss Food-Drink*

*Manufactured under license in U.S.A.  
according to original Swiss formula.*

**This offer is limited only to practicing  
physicians, dentists and nurses**

THE WANDER COMPANY  
180 N. Michigan Ave.  
Chicago, Ill.

Dept. IM 6

Please send me, without charge, a regular size package of Ovaltine. Evidence of my professional standing is enclosed.

Dr. ....

Address . . . . .

City . . . . . State . . . . .

Canadian subscribers should address coupons to  
A. Wander, Ltd., Elmwood Park, Peterborough, Ont.

# Oconomowoc Health Resort

OCONOMOWOC,  
WISCONSIN



Founded in 1907 for the treatment of NERVOUS and MILD MENTAL DISEASES

Fireproof building; non-institutional in appearance; accommodations modern and home-like. Fifty acres of park with beautiful views over lakes. Every essential for treatment provided, including hydrotherapy and occupational departments under trained supervisors. Number of patients limited, assuring personal attention from the staff.

ARTHUR W. ROGERS, M.D., Physician in Charge  
JAMES C. HASSALL, M.D., Medical Supt. OWEN C. CLARK, M.D., Asst. Physician

On main line C. M. & St. P. Ry., 30 miles west of Milwaukee



## MICHELL FARM

*Mild Nervous and Mental Diseases*



## The Peoria Sanitarium

*Severe Nervous and Mental Diseases  
Liquor and Drug Addicts*



Dr. George W. Michell, Superintendent  
Dr. Helen Coyle, Medical Director  
106 No. Glen Oak Ave., PEORIA, ILL.  
Telephone 5788



## North Shore Health Resort

Located on the Shore of Beautiful Lake Michigan  
WINNETKA, ILLINOIS  
16 Miles North of Chicago

Thoroughly Equipped Sanitarium

Hydrotherapy - Electrotherapy - Massage - Dietetics

Occupational Therapy Department

Special facilities are offered for the care and  
treatment of nervous and chronic diseases.

*Ideal for Convalescents*

Write for Booklet or Phone WINNETKA 211  
Wm. R. Whitaker Manager Wm. G. Stearns, M.D. Medical Director











*The New York Academy of Medicine*

THIS BOOK MUST NOT BE RETAINED FOR  
LONGER THAN ONE WEEK AFTER THE LAST  
DATE ON THE SLIP UNLESS PERMISSION FOR ITS  
RENEWAL BE OBTAINED FROM THE LIBRARY.

OCT 8 '34

NOV - 5 '34

NOV 5 '34

SEP 15 1938

JAN 20 '39

DEC 11 1953

*W. J. L. S.*





